NEW EQUIPMENT DIGEST

A Penton Publication

March, 1959

Volume 24—Number 3

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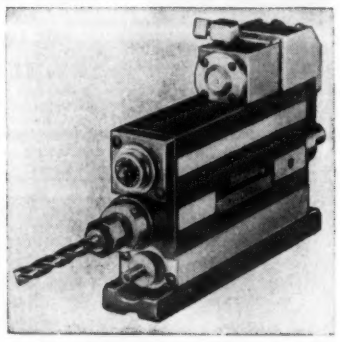
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 4 and 100

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

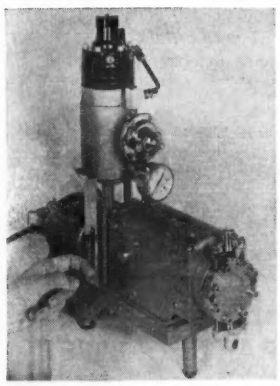
AIR-HYDRAULIC DRILL
can be mounted on 2-in. centers



Only 2 in. wide, 12 in. long, and 7 in. high, excluding motor, the Autodrill air - hydraulic automatic drill unit can be used in any vertical or horizontal position on 2-in. centers. It develops three times line pressure in thrust and has a drilling capacity of 5/16 in. in steel. Stroke is 1½ in. The electrically actuated unit features automatic control of feed and stroke and depth accuracy of 0.001 in., with no dwell required. Spindle speeds may be up to 6000 rpm. Recommended motor sizes are ⅓ to ½ hp. Adjustable rapid traverse, continuously variable hydraulic in-feed, and an accessory valve port to operate other pneumatic devices are incorporated. Made by **Precise Products Corp.**, Blue River Road, Racine, Wis.

▲ For more details circle **NED-1 C9** on enclosed inquiry slip ▲

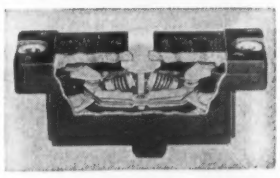
AUTOMATIC METERING PUMP
rate adjusted by pneumatic signal



Pumping rate of this Auto - Pneumatic Micro - flo Pulsafeeder metering pump is adjustable from zero to full capacity by signals from pneumatic instruments with 3-15 psi range. Theoretical capacity ranges from 1040 to 2300 ml/hr at 0 psi. Pressures up to 2000 psi can be accommodated. In process industries pump allows metering of chemicals without using constant level controls, high head tanks, measuring tanks, or stuffing box pumps. The positive displacement pumps can be used with Flow-Orifice meters, Flow-Rotameters, liquid level instruments, Flow Variable-pH variable meters, pH control meters, and temperature control instruments. Made by **Lapp Insulator Co.**, Process Equipment Div., 100 Hall St., LeRoy, N. Y.

▲ For more details circle **NED-2 C9** on enclosed inquiry slip ▲

MIT SWITCHES
long-life units rated to 600 v

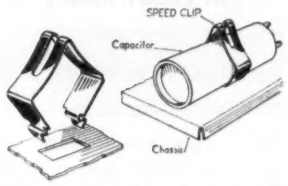


ntact mechanism of ision limit switches ovides long electrical and mechanical life and repetitive accuracy. Two compressed coil springs provide a quick make and break action. Semi-dusttight molded phenolic case is strong and has high arc resisting capacity. Heavy duty switches can be used for alternating and direct current pilot duty up to 600 v. Plunger, roller, and cabinet door types are among the variety of operators offered. Made by **Cutler-Hammer Inc.**, 574 N. 12th St., Milwaukee 1, Wis.

▲ For more details circle **NED-3 C9** on enclosed inquiry slip ▲

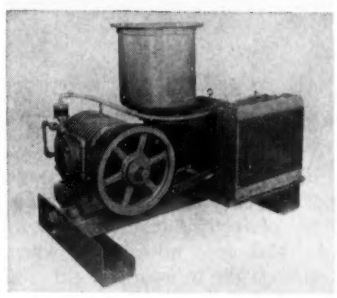
CAPACITOR CLIP
holds fast against vibration

Positive retention of capacitors on electronic equipment is possible with the Speed Clip, a vibrationproof spring steel fastener. First snapped over the capacitor, the unit is positioned over a rectangular panel hole in the chassis, and its spring legs are snapped in place over the panel edges. Clip will not crush or damage 31/32 to 1⅝-in. capacitors, yet will retain varying sizes with no loss of holding power. It can also be used for cable, tube, or harness retention, or on any round member. Made by **Tinnerman Products, Inc.**, Box 6688, Cleveland 1, Ohio.



▲ For more details circle **NED-4 C9** on enclosed inquiry slip ▲

HIGH VACUUM PUMP
provides steady 29.9-in. Hg vacuum

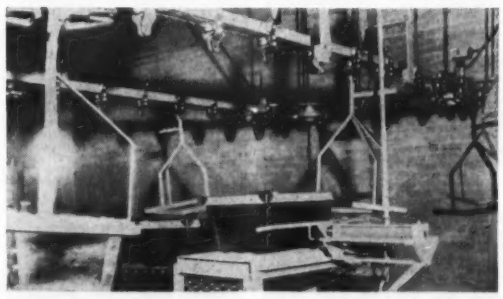


Model 106 high vacuum pump unit has six sets of dual vanes which provide positive high pressure oil seal. Their two contact surfaces on the cylinder wall seal off the high and low pressure sides of the pump. High pressure air pulsations are divided into many small pulsations by the six dual vanes, resulting in an even flow of air with a minimum of vibration. Pump is cooled by a recirculating radiator oil-cooling system. It produces a steady vacuum of 29.9 in. Hg in continuous operation at an average of 200° F. Capacity is 50 to 105 cfm. Made by **Leiman Bros., Inc.**, 102 Christie St., Newark 5, N. J.

▲ For more details circle **NED-5 C9** on enclosed inquiry slip ▲

OVERHEAD CONVEYOR
now has automatic discharge

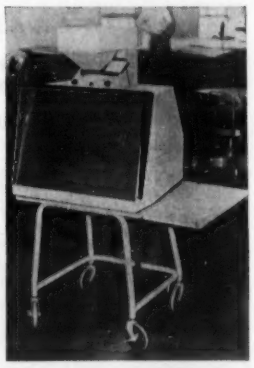
Cable-Way overhead conveyors are now available with an automatic discharge system which is adaptable to production and warehousing operations. The handling



system provides removable tote boxes, air-operated roller conveyor sections which lift the tote boxes at selected stations, and air-operated pushers which push boxes onto gravity roller conveyors on signal from a limit switch. Station selectors are mounted on arms near the tops of the carriers. Number of selectable stations can vary. One of the unloading points in a four-station discharge system is shown. Made by **American MonoRail Co.**, Conveyor Div., Tipp City, Ohio.

▲ For more details circle **NED-6 C9** on enclosed inquiry slip ▲

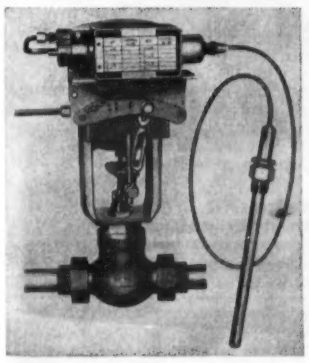
MICROFILM READER
magnifies engineering drawings



With a nominal magnification of 15 times, the Designer 184 microfilm reader enlarges A, B, or C size engineering drawings filmed at 16 X reduction to almost full size. Larger drawings, filmed at 30 X reduction, are enlarged to half-size. Screen is slightly larger than 18 x 24 in. Punch cards and 3 x 5-in. cards with film are held in place by a plastic holder which can be rotated 90 to 180 degrees. The 300-w bulb is kept warm with 15-v current until insertion of the aperture card trips the full-voltage switch and sends 20 to 25 ft-c of light on the screen. The screen is angled for viewing comfort, and a blower exhausts lamp heat. Reader is priced at $735 and its stand is $85. Made by **Filmsort Co.**, 50 S. Pearl St., Pearl River, N. Y.

▲ For more details circle **NED-7 C9** on enclosed inquiry slip ▲

CONTROLLER-POSITIONER-VALVE
for temperatures and pressures



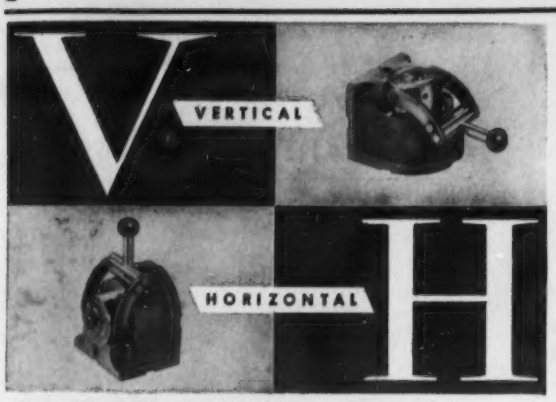
Extremely flexible in application, this Fultro-Matic controller - positioner-valve combination affords accurate control of process pressures or temperatures. When used with various pneumatic transmitters, it will control variables such as rate of flow, liquid level, or temperatures and pressures beyond the range of vapor-pressure temperature elements or bellows pressure elements. It combines features of measurement, control point setting, modulating, adjustable proportional band, positive positioner, and control valve. Variations are offered for control of such elements as dampers and Variacs. Made by **Robertshaw-Fulton Controls Co.**, Fulton Sylphon Div., Box 400, Knoxville 1, Tenn.

▲ For more details circle **NED-8 C9** on enclosed inquiry slip ▲

AIR POWERED VACUUM CLEANER
is usable in hazardous areas

Power to operate Air Jet vacuum cleaners is obtained simply by connecting machine to existing compressed air lines in the plant. Mounted on wheels and casters for mobility, cleaners can be used safely in hazardous locations. There is no danger of sparks. Two and three-inch air jet sizes require 20 and 40 cfm of compressed air at 80 psi, respectively. Made by **Spencer Turbine Co.**, 487 New Park Ave., Hartford 6, Conn.

▲ For more details circle **NED-9 C9** on enclosed inquiry slip ▲



Another Model Holding Fixture by ZAGAR

Simplified tooling at reduced cost keynotes Zagar fixtures for drilling, grinding, milling and other finishing operations. The Zagar V-H will:

- SET UP QUICK
- LOAD EASILY
- ELIMINATE NEED OF ANGLE PLATE

Get more information in Reference Sheet 14-N-4.

ZAGAR, INCORPORATED
23880 LAKELAND BLVD.
CLEVELAND 23, OHIO

Zagar
TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle NED-11 C9 on enclosed inquiry slip ▲

Kling COMBINATION SHEAR-PUNCH-COPER

- Handles Multiple operations at one time!
- Speeds up production!
- Reduces maintenance costs!

PERFORMS ALL THESE METAL-WORKING OPERATIONS AND MORE!

All the cost-cutting, production-increasing versatility and construction features you need to increase your profits and speed up your deliveries are combined in this one Kling Jack-of-all-jobs machine. You can choose the one best for your needs from three sizes offered . . . Write for Kling Combination Bulletin 347A.

KLING BROS. ENGINEERING WORKS
1320 N. KOSTNER AVENUE • CHICAGO 51, ILLINOIS
Export Distributor: Simmons Machine Tool Corp., 50 E. 42nd St., New York 17
Exclusive Canadian Distributor: Rudel Machinery Company, Limited

▲ For more details circle NED-12 C9 on enclosed inquiry slip ▲

4 Ways Better For Every Sweeping Job!

1. Highest quality materials and construction
2. Outlast ordinary brushes 2 to 1
3. Tufts cannot come out or come loose
4. 27 styles and sizes to choose from

Milwaukee Dustless Brush Co., 530 N. 22nd St., Milwaukee, Wis.

FIRM _____
ADDRESS _____
CITY _____ STATE _____

▲ For more details circle NED-13 C9 on enclosed inquiry slip ▲

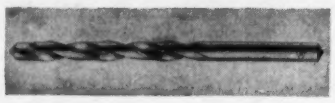
To Insure Continuing Service

NEW EQUIPMENT DIGEST is sent to you free each month because you are a responsible buying or specifying official in an established company. As a requirement for you to remain on our mailing list, we must verify your name, title, and company connection at regular intervals.

If you have not returned one of our routine Circulation Questionnaires or have not sent us an inquiry within the past year, please fill in the coupon on the back of one of the inquiry slips in this issue. It is self-mailing, and we will pay the postage. This same coupon can be used to request that NEW EQUIPMENT DIGEST be sent to you if you are not now receiving our magazine, providing your company and position qualify. The inquiry slips are to be found opposite pages 4 and 100 in this issue.

A. N. Gregg
EDITOR

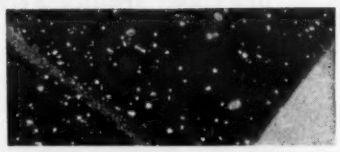
SOLID CARBIDE DRILLS in fractional and wire gage sizes



Solid carbide drills are designed for use in cast iron and nonferrous materials. They are available in fractional sizes from 1/16 to ½ in., letter sizes A to Z, and wire gage sizes from No. 1 to No. 60. Flutes and overall lengths are shorter than jobbers length drills for greater rigidity. Made by **Whitman & Barnes**, 40600 Plymouth Rd., Plymouth, Mich.

▲ For more details circle NED-14 C9 on enclosed inquiry slip ▲

ROOF REPAIR MATERIAL made of spun glass threads

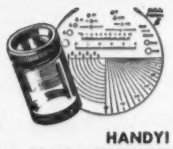


Spun glass threads criss-crossed at random to make a tough glass mat comprise Tropiglas roof repair and reconditioning material. Mat is embedded in Roofkoter, a semiliquid coating. Trapped air escapes through the glass weave before final coat of Roofkoter is applied, allowing mat to lay perfectly flat and follow irregularities on the roof. Mat does not shrink, warp, or curl, and finished roofing job is weathertight and will not rot or wrinkle. A 540-sq ft roll weighs less than 50 lb. Porous nature of Tropiglas mat before coating is shown by magnified section of the material. Made by **Tropical Paint Co.**, 1246 W. 70th St., Cleveland 2, Ohio.

▲ For more details circle NED-15 C9 on enclosed inquiry slip ▲

UNUSUAL BARGAINS

Check, Measure, Inspect with this 6 POWER POCKET COMPARATOR



(Complete with Leather Case)
MEASURES • Angles • Radii • Circles • Linear—in both decimal inches and millimeters.
Used to check layouts, machining on tools, dies, gauges; to check threads, chamfers, wear on cutting tools, etc.

Stock No. 30,061-AE . . . New Low Price . . $19.50 Pstpd.
Send Check or M.O.—or order on open account.

HANDY! FAST! ACCURATE!

American Made . . . Over 50% Saving
STEREO-MICROSCOPE

Up to 3" Working Distance—Wide 3 Dimensional Field—Used in production, in research, or at home; for inspections, examinations, counting, checking, assembling, dissecting, speeding up and improving quality control, 2 sets of objectives on rotating turret. Standard pair of wide field 10X Kellner Eyepieces give you 23 power and 40 power clear, sharp, erect image. Helical rack and pinion focusing. Interpupillary distance adjustable. WE WILL SHIP ON 10-DAY FREE TRIAL.
Stock No. 85,056-AE—full price, $99.50 f.o.b. Barrington, N.J.
Low Power Supplementary Lens Attachment for above Stereo—provides 15X down to 6X with clear, extra large 1½" field at 6X. Stock #30,276-AE $7.50
Order by Stock No. Send Check or M.O.—or order on open account.

GIANT MAGNETS! TERRIFIC BARGAINS!

War surplus—Alnico V-type! Horseshoe shape. Tremendous lifting power. 5 lb. size. Dimensions: A—3¼"; B—2¾"; C—4-3/16"; D—1¼"; E—1¼"; F—2⅝". Strength is about 2,000 Gauss. Will lift over 125 lbs.
Stock No. 70,183-AE ..... $8.50 ppd.
15¾ lb size magnet. Approximately 5,000-6,000 Gauss rating. Will lift over 250 lbs.
Stock No. 85,088-AE ..... $22.50 F.O.B. Barrington, N. J.
Shipping weight 22 lbs.
Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee

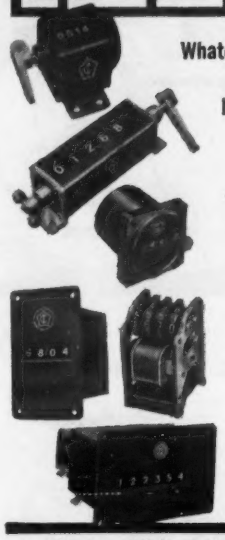
FREE! Giant CATALOG of OPTICAL BUYS!

OVER 1,000 OPTICAL ITEMS . . . Many on-the-job helps . . . quality control aids! 96 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists. No obligation. Write for FREE Catalog AE

EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-16 C9 on enclosed inquiry slip ▲

A Complete Line of COUNTING INSTRUMENTS *from* INTIMEX



Whatever your counting problem, there's a precision-built counter from INTIMEX to solve that problem . . accurately, economically.

You can depend on INTIMEX for rapid delivery of all types of counting instruments, ranging from Small and Medium Size Counters (with or without resets) to High Speed, Quick Reset Electro-Magnetic Counters and Photo Transistor Counters. There's an INTIMEX Counter to insure accuracy in your counting operation . . . INTIMEX takes the thinking out of counting.

Engineering available on special counting problems.

FREE Literature Available, write:
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Richardson Bldg., Bonifant & Fenton Sts.
Silver Spring, Maryland • (Washington, D. C.)

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BROWNING VARIABLE PITCH SHEAVES

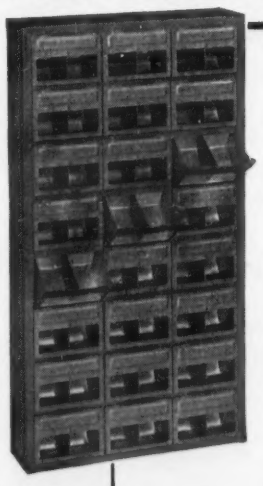
Browning offers the most complete line of FHP sheaves, including 108 variable pitch sizes and types, single and double groove. All are accurately balanced, true running, easily adjusted. With fixed bore or the same *malleable* split taper bushing used in Browning sprockets, couplings, paper pulleys, and other sheaves. Made by experts in power transmission since 1886—Browning Manufacturing Company, Maysville, Kentucky.

Ask your Browning distributor or write us for Catalog V147.

Browning POWER TRANSMISSION EQUIPMENT

▲ For more details circle NED-18 C9 on enclosed inquiry slip ▲

THE "UC" PARTS CABINET
VISIBLE SMALL-PARTS STORAGE . . . .



Save TIME and MONEY now! Control Small-Parts Inventory. NO MORE LOOKING, DUPLICATION, WASTE.

Available with 6, 12 and 24 bins. Each bin has removable divider and high strength glass front. Spillproof bins open at a finger touch. Identification labels for bin fronts. Entire cabinet of welded heavy gauge steel.

SPECIFICATIONS for 24 Bin Unit: Overall dimensions—4" deep, 29" high, 15⅜" wide.

Dimensions of each bin: 3" deep, 3½" high, 4½" wide. Finished in baked enamel Hammertone Blue.

BOWERS
MANUFACTURING COMPANY
105 Michigan St., Toledo 2, Ohio

▲ For more details circle NED-19 C9 on enclosed inquiry slip ▲

the ABBOTT method OF BARREL FINISHING

Cuts Cost!

Used to burnish and de-burr small parts, the Abbott Method of Barrel finishing sharply reduces costs by completely eliminating expensive hand operations . . . and by employing long-service life Abbott Shapes, which can be used repeatedly with undiminishing effectiveness.

Abbott Shapes are made of special carbon steel, and properly can be applied to stampings, castings, and machined parts of every type and design. Write for complete information on prices and applications.

SIZE RANGE OF ABBOTT SHAPES:

BALLS (Abco)	3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/32", 3/16", 11/32", 3/8", 13/32", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4".
BALLS (Eclipse)	3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 3/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4".
OVALBALLS	1/8", 5/32", 3/16", 1/4", 5/16", 3/8".
BALLCONES	1/8", 3/16", 1/4", 5/16".
CONES	1/8", 3/16", 1/4", 5/16", 3/8", 1/2".
DIAGONALS	1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16".
PINS	1/32"×3/8", 1/16"×5/32", 1/16"×1/2", 1/8"×3/8", 3/64"×1/2", 3/64"×3/8".

1/32" and 1/16" ABBOTT PEBS (processed, chilled shot) also available.

a HALF century of WHOLE service to industry 1909 1959

THE ABBOTT BALL COMPANY
RAILROAD AVE. WEST HARTFORD 10, CONN.

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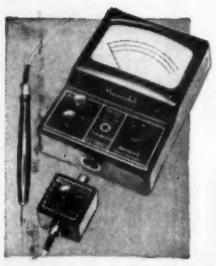
NOW...ACCURATE TEMPERATURE DATA with Thermophil THERMISTOR THERMOMETER



- **ACCURACY:**

	70°C/range	20°C/range
− 50° to 50°C	±0.7°C	±.15°C
+ 50° to 100°C	±1.0°C	±.2°C
+100° to 200°C	±1.5°C	±.3°C
Readability	.25°	.1°

- **FASTEST RESPONSE:** time constant: .75 seconds in liquids; 2.2 seconds on surfaces.
- **ONE HUNDRED INTERCHANGEABLE PROBES, TWENTY-SIX INSTRUMENTS** Readings between −328°F to 845°F or C equivalent.
- **BATTERY POWERED,** as pictured, or AC models (portable or panel mountable).
- **STABLE EUROPEAN THERMISTOR** resistance element, bridge circuit and amplifier.

USED BY G. E., duPont, Westinghouse, etc.

INTRODUCTORY OFFER

COMPLETE $180.00

Instrument as pictured, °F or °C.
Temperature range; overlapping:

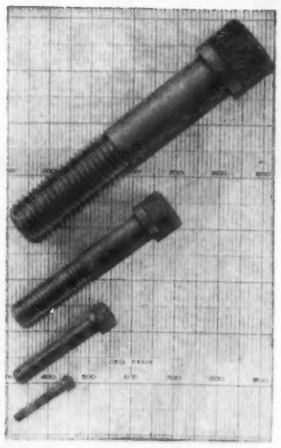
	Model #4412F	Model #4412C
Scale I	32° to 158°F	0° to 70°C
Scale II	158° to 284°F	70° to 140°C
Scale III	284° to 410°F	140° to 210°C

with one probe, choice of . . .
#H10AO stainless steel for surfaces
#H01AF glass tipped for liquids
#H12AF stainless steel needle

ATKINS TECHNICAL, INC.
1276 West Third Street
Cleveland 13, Ohio • Telephone: SU 1-1333

▲ For more details circle NED-21 C9 on enclosed inquiry slip ▲

Dimensionally Controlled Heat Treatment gives Mac-it screws more durability



The heat treatment specifications for every Mac-it alloy steel screw are determined by its dimensions as well as its intended use.

At Mac-it, large and small diameters are not run through the heat treating processes indiscriminately. Instead, our metallurgists establish a heat treating cycle for each type and size. This assures that every screw has the proper combination of strength, toughness, ductility and resistance to vibration and shock.

Dimensionally controlled heat treatment is just one illustration of the care which is taken in every step in the manufacture of Mac-it screws.

That's why Mac-its *hold tight in a tight place.*

Buy by name from your distributor—buy Mac-it

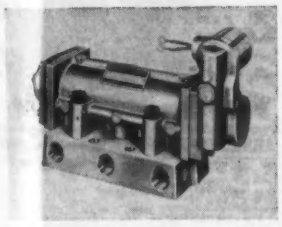
Mac-it

MAC-IT PARTS COMPANY
DEPT. 24, LANCASTER, PA.

MAC-IT ALLOY STEEL SCREWS

▲ For more details circle NED-22 C9 on enclosed inquiry slip ▲

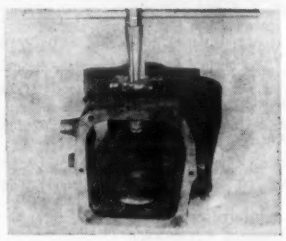
SOLENOID VALVES
single and double 1/2-in. flow units



Full 1/2-in. flow of 257 cfm at 100 psi is a feature of poppet pilot B Type single and double solenoid operated control valves. Housings are aluminum castings. Flow is through the hollow, radially ported stainless steel plunger and out the connected piping. Pilot operation employs fluid pressure to operate the valve, permitting use of small, short stroke solenoids. Two, three, and four-way actions and two and three-position designs are available in all standard alternating and direct current voltages. Made by **Hunt Valve Co.**, 2200 E. Pershing Ave., Salem, Ohio.

▲ For more details circle NED-23 C9 on enclosed inquiry slip ▲

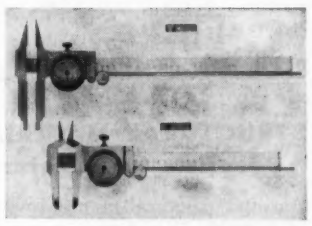
KNURLING TOOL
renews worn bores in castings



Worn castings can be salvaged by rehabilitating worn bearing bores with this inside diameter knurling tool. By raising the metal in the bore through knurling, the tool makes possible longer lasting fitting of bearings and parts in housings, generator end plates, transfer cases, wheel hubs, speed reducers, and fluid couplings. Worn bores can be renewed to 93 per cent gripping power and are often more durable than original bore surface because knurling causes intermittent air spaces which dissipate heat generated by bearing action. Guides adapt tool for bores up to 12 in. diameter. Made by **Peerless Tool Co.**, 4621 N. LeClaire Ave., Chicago, Ill.

▲ For more details circle NED-24 C9 on enclosed inquiry slip ▲

DIAL READING CALIPERS
measure to 0.001 in. accuracy



Direct reading dials of these 0-6 and 0-8-in. calipers are accurate to 0.001 in. without verniers or auxiliary scales. Double jaws allow inside, outside, or depth measurement with equal convenience. Jaws can be locked in position if desired. Tools are made from stainless steel and brass with enclosed operating components. The 6 and 8-in. models sell for $39.90 and $42.00, respectively, and are supplied in leather cases. Velvet lined wooden cases are obtainable. Offered by **Titan Tool Supply Co.**, 1419 Hertel Ave., Buffalo 16, N. Y.

▲ For more details circle NED-25 C9 on enclosed inquiry slip ▲

TWELVE EASY WAYS TO LIFT FROM 3 TO 100 TONS . . .
USE DUFF-NORTON HYDRAULIC JACKS

Designed for ease of operation this rugged, dependable line of Duff-Norton hydraulic jacks gives you rapid rise with minimum effort. Twelve models in 10 different capacities ranging from 3 to 100 tons meet the lifting requirements of all types of industry.

Duff-Norton Hy-Power Hydraulic Jacks are stocked by your distributor. For quick delivery call him the next time you need a jack, or write for a copy of Bulletin AD-16-N to obtain complete details and specifications. **Duff-Norton Company, P.O. Box 1889, Pittsburgh 30, Pa.**

▲ For more details circle NED-26 C9 on enclosed inquiry slip ▲

Manufacturing supervisors watching line performance specify PROTO TOOLS

Proto Power and Impact Sockets, available in 1/4", 3/8", 1/2", 5/8", 3/4", and 1" square drive. Openings from 3/16" to 3 1/8". Full assortment attachments and adapters. Larger sizes, special designs to your order. Meet Fed. Spec. GGG-W-660. Pages 21-27 in Proto Catalog give full details and dimensions.

Proto manufactures more than 2172 professional tools for all industries; guaranteed to do their jobs. Highest standards of forging, heat treat, and finishing in special analysis alloy steels.

PROTO TOOLS
PROfessional QUALITY TOOLS

2209 Santa Fe Avenue
Los Angeles 54, California
Jamestown, New York
Canadian Plant: London, Ontario

PROTO IS A DIVISION OF PENDLETON TOOL INDUSTRIES, INC. . . . WORLD'S LARGEST MANUFACTURER OF HAND SERVICE TOOLS

▲ For more details circle NED-27 C9 on enclosed inquiry slip ▲

Advantages of METALSET® A4

- No solvent to cause shrinkage
- Hence, use it in *any* thickness, all at one time
- Adhesive: to steel, iron, aluminum, glass, and all porous materials like wood and ceramics
- Hard: can be drilled and tapped
- Stable: waterproof, oilproof, chemically resistant
- Flexibilized against thermal and mechanical shock
- Not only is revolutionary epoxy-resin cement easy to use: — Metalset A4 is non-flammable, hardens at room temperature, and is made with minimum-toxicity materials only

TYPICAL APPLICATIONS...

- Stops leaks in pipes, tanks, concrete
- Bonds metal to metal, wood, concrete
- Smooths and fills dents in sheet-steel, aluminum
- Sets loose parts tight
- Caulks windows, roof fixtures, sidewalk elevators

METALSET®

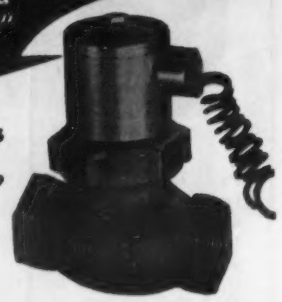
Made by Smooth-On Manufacturing Company
ESTABLISHED IN 1955
572 Communipaw Avenue, Jersey City 4, N. J.

▲ For more details circle NED-28 C9 on enclosed inquiry slip ▲

TYPE M

Solenoid Valves

"We've actually improved quality and radically lowered prices. Compare!"



TYPICAL USER NET PRICES
F.O.B. FACTORY

SIZE	1 to 5	100 to 499
½"	$15.40	$11.15
¾"	18.50	13.60
1"	24.25	18.50
1½"	48.00	42.40

PRESSURES TO 400 psi

Packless • 2-Way • General Service • Normally Closed

Sizes ⅜" to 3" • Temperatures to 250° • Molded epoxy resin waterproof coils • Unbreakable piston rings • Self-cleaning • Guided valve seats • Simple, rugged construction. Only 2 moving parts • No diaphragms or linkages • Cushioned closing. No damaging hammer • Easy-off "O" ring bonnet construction in sizes ⅜" thru ¾" • High temperature coils and explosion proof housings at slight extra cost. Immediate delivery. Ask for Bulletin 600-M.

J. D. GOULD CO. • 4707 MASSACHUSETTS AVE.
INDIANAPOLIS 18, IND.

GOULD SOLENOID VALVES — VELVETROL

▲ For more details circle NED-29 C9 on enclosed inquiry slip ▲

Call your Chromalox Man for answers to...

Trubek Laboratories, Inc., New Jersey. Photo by Chemical Processing.

When temperature requirements could no longer be met by a hot tempering oil central system, Chromalox "job-side" heating provided the answer.

Widely different temperature requirements on various processing vessels

Recently, this company converted an old hot oil central system to Chromalox electric "job-side" heating. In addition to being troublesome, the old system could not provide the variety of temperatures required for their growing diversity of products. Switching to Chromalox Immersion Heaters, they now use Aroclors and Dowtherm as heat transfer media. On one 350-gallon vacuum still, 18kw of heat capacity now provides temperatures of 290°C. Chromalox Type TMO Immersion Heaters operate in the bottom of the vented vessel jacket which contains the heat transfer medium. Using 30kw, a 450-gallon sealed jacket reactor can attain temperatures to 325°C., using Dowtherm-A.

Chromalox has a complete line of electric heaters to meet all liquid processing requirements. Perhaps your Chromalox Man, listed below, can help you solve some of *your* heating problems the easy, economical, *electrical* way. Why not give him a call.

Atlanta, Ga. TRinity 5-7244
Bala-Cynwyd, Pa. MOhawk 4-6113 GReenwood 3-4477
Baltimore, Md. HOpkins 7-3280
Binghamton, N. Y. Phone 4-7703
Bloomfield, N. J. EDison 8-6900 WOrth 4-2990 (N. Y.)
Boston, Mass. LIberty 2-1941
Buffalo, N. Y. SUmmer 4000
Charlotte, N. C. EDison 4-4244 FRanklin 5-1044
Chattanooga, Tenn. AMherst 5-3862
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Des Moines, Iowa CHerry 3-1203
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Houston, Texas CApitol 5-0356
Indianapolis, Ind. MElrose 5-5313
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Los Angeles, Calif. Richmond 7-9401
Middletown, Conn. DIamond 6-9606
Milwaukee, Wis. BRoadway 1-3021
Minneapolis, Minn. FEderal 6-3373
Nashville, Tenn. CYpress 2-7016
New York City, N. Y. (See Bloomfield, N. J.)
Omaha, Nebraska ATlantic 7600
Philadelphia, Pa. (See Bala-Cynwyd, Pa.)
Pittsburgh, Pa. EMerson 1-2900
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Rochester, N. Y. HAmilton 6-2070
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San Francisco, Calif. UNderhill 1-3527
Seattle, Wash. MAin 4-7297
Syracuse, N. Y. HOward 3-2748
Wichita, Kansas AMherst 2-5647

7755

CHROMALOX Electric Heat
INDUSTRIAL • COMMERCIAL • RESIDENTIAL
EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard • Pittsburgh 8, Pa.

▲ For more details circle NED-30 C9 on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

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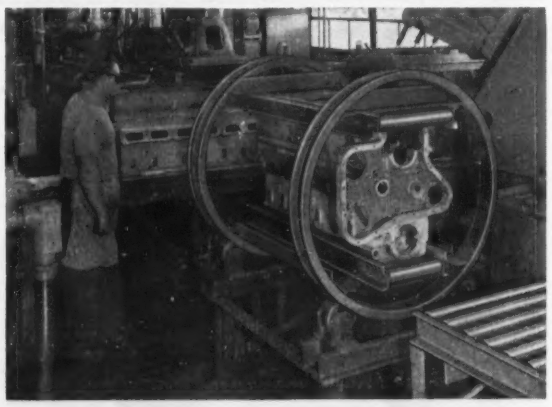
BPA NBP

STRUCTURAL MATERIAL resists temperatures over 5000° F

Avcoite structural material withstands the searing blast of a 5000° F rocket engine exhaust and is unchanged by heat shock or erosion. This quasi-ductile reinforced ceramic can be fabricated into rocket nozzles, components, and other parts which must retain their shapes at very high temperatures. Made by Avco Mfg. Corp., Avco Research & Advanced Development Div., 201 Lowell St., Wilmington, Mass.

▲ For more details circle NED-31 C9 on enclosed inquiry slip ▲



Meet the Logan Roll-Over

"Upside down efficiency" that's a good way to describe the work of this member of the Logan Conveyor family. In case you haven't seen a Roll-Over, it consists of a circular framework carrying a section of Roller Conveyor. The load is revolved manually around its center of gravity with very little effort . . . ideal for positioning heavy castings or unloading tote pans.

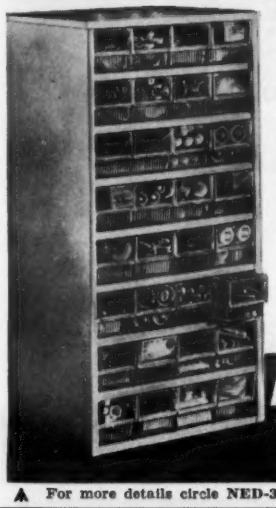
Write today for more information on the entire line of expertly engineered Logan Conveyors.

LOGAN CO., 276 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

▲ For more details circle NED-32 C9 on enclosed inquiry slip ▲

FREE CATALOG "How to Solve SMALL PARTS STORAGE PROBLEMS"



Free 32-page illustrated catalog shows 750 different Cabinet Combinations . . . units from 4 to 128 drawers, 24 to 512 compartments, 11 different drawer sizes.

The neat, efficient way to store small parts in offices, shops, labs, etc. Ideal for handling and display.

Production line prices from $2.98

Ask for catalog AM-ED-3

AKRO-MILS, INC.
P. O. Box 989
Akron 9, Ohio

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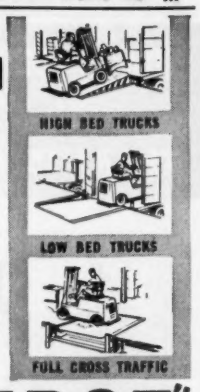
COSTS LESS TO BUY
COSTS LESS TO INSTALL
COSTS LESS TO USE



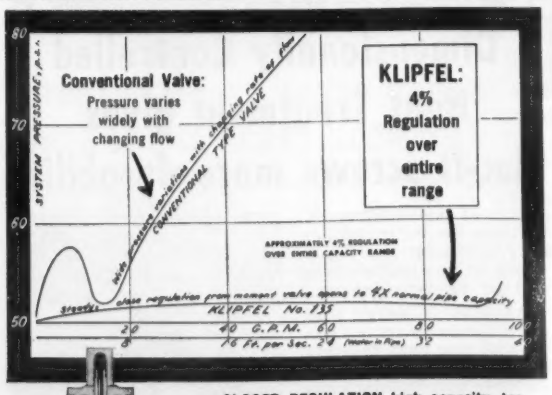
Automatically Bridges The Gap Between Truck and Dock with a Smooth, Easy Grade

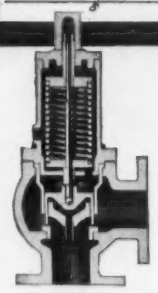
"Dockbridge" is a simple, trouble-free, fully automatic, truck-activated, hinged loading ramp . . . takes trucks up to 16" above and down to 10" below dock level without the use of costly, complicated hydraulics or jury-rigged mechanisms. Only the "Dockbridge" is a clean, compact, self-contained package, ready to install in a prepared dock pit 17½" deep. Four sturdy legs can be attached to the unit, making it free-standing where a pit is not practical. Makes installation low cost and easy in existing docks or new construction.

"DOCKBRIDGE" LOADING RAMP

AMERICAN DOCKBRIDGE, INC.
235 W. Oklahoma Ave., Milwaukee 7, Wis. Dept. D-3
WRITE FOR FREE CATALOG.

▲ For more details circle NED-34 C9 on enclosed inquiry slip ▲





CLOSER REGULATION high capacity, too with KLIPFEL BACK PRESSURE VALVES

Klipfel No. 135 Back Pressure Valves are ideal for original equipment installations and are used with any clean fluids for pressures from 5 to 300 lbs.

Klipfel Cup Disc Valves provide excellent regulation at all rates of flow. Upstream pressure rise is a fraction of that with conventional valves. Capacity is 4 times that of a pipe of the same size.

FREE: Write for Bulletin 454 containing complete information on Klipfel Back Pressure Valves.

HAMILTON • OHIO — Klipfel VALVES, INC.

Automatic Temperature-and-Pressure-Regulating Valves Since 1902

Float Valves • Temperature Regulators • Back Pressure Valves • Reducing Valves

A DIVISION OF THE HAMILTON-THOMAS CORPORATION

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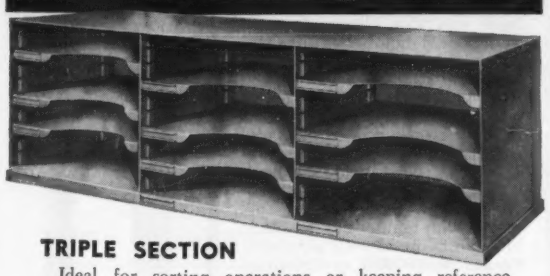
LYON® SORTING FILES



TRIPLE SECTION

Ideal for sorting operations or keeping reference material right at finger tips. Stack to any desired height. Shelves adjustable every inch without tools—may be tilted if desired. Labelholder on each opening. Single sections also available—excellent for desk mail racks. Lyon Gray baked-on enamel.

Triple Section: 33½" wide, 12" deep, 10⅝" high
Single Section: 11⅜" wide, 12" deep, 10⅝" high
Write for free 84-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

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BRIGHT STAIN-FREE PLATING IN VOLUME

BARRETT WASHER-DRYER

Up to 425 lb. loads — 2 minute cycle

- **Rugged, Heavy Duty** machine for large volume production without vibration.
- **Clean rinse water** for each load completely removes plating solution contamination.
- **Fast, thorough drying** prevents salt stains and water marks.

Send for 4 Page Brochure includes typical applications, design features and performance data.

THE LEON J. BARRETT COMPANY
1503 GRAFTON ROAD
WORCESTER, MASSACHUSETTS, U. S. A.

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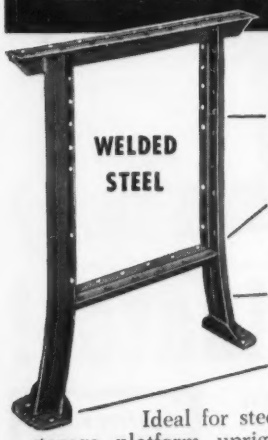
LYON® BENCH LEGS



Ideal for steel and wood top benches, storage platform uprights, machine mountings. Legs have 24 square inches of floor bearing surface. Lyon Green baked-on enamel. Two sizes: 28" deep, 32¼" high and 34" deep, 32¼" high.
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General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

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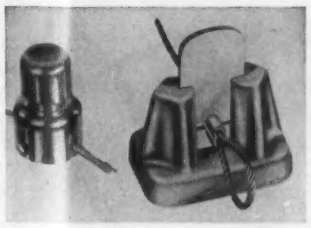
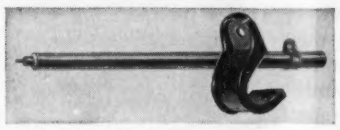
WIRE ROPE ASSEMBLY KIT
hammer used to cut and swage



Using this Cut'n'Swage wire rope assembly tool kit, only a hammer is required for cutting of steel cable and assembly of fittings. Kit consists of a Bercut cutting tool for 1/16, 3/32, or ⅛-in. steel cable, and the Berloc swaging tool with dies for the same cable dimensions. Cable is fed through smallest hole in cutting tool and is cut cleanly by a blow of a hammer on cutting punch. In swaging, cable is looped in a compression sleeve fitting and placed between swaging blades which are hammered shut to form a splice that exceeds breaking strength of the cable. A production model of the cutting tool is also available and has a spring return for the cutting punch. Kit is offered by **Bergen Wire Rope Co.**, Gregg Street, Lodi, N. J.

▲ For more details circle **NED-39 C9** on enclosed inquiry slip ▲

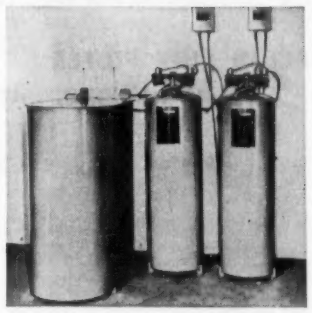
CABLE CLIPS
made of molded nylon



Black or natural color nylon clips are quickly and easily applied to support cable or tubing. The ribbed, reinforced edge adds strength for holding against vibration, weather, moisture, and chemical corrosion. Clips are nonconductive electrically and have no sharp edges. Made by **Commercial Plastics Co.**, 947 George St., Chicago 14, Ill.

▲ For more details circle **NED-40 C9** on enclosed inquiry slip ▲

AUTOMATIC WATER SOFTENERS
in flow rates to 50 gpm



Available in both single and double units, these automatic water softeners operate at service flow rates up to 52 gpm. Softeners are used for personnel in-plant soft water requirements, for process water in manufacturing, for treatment of water in air conditioning, and for removal of hardness and scale-forming matter. Four basic units have capacities ranging from 69,000 to 430,000 grains of hardness between regenerations. A timer controls regeneration at predetermined time on 1, 2, 3, 4, 6, or 12-day intervals. Obround epoxy-coated brine tank allows flexibility of installation. Made by **F. E. Myers & Bro. Co.**, 424-34 Orange St., Ashland, Ohio.

▲ For more details circle **NED-41 C9** on enclosed inquiry slip ▲

Aftercooler and Cyclone Separator designed for cleaner, dryer compressed air

The Adams Aftercooler and Cyclone Separator are designed to efficiently condense and remove water from compressed air and process gas. Condensed moisture and entrained dirt and oil are subsequently removed in a cyclone type separator. This unit is scientifically designed for maximum removal efficiency over a wide range of flow rates.

For normal use, units are available to cool gases to within 10° F of the temperature of the cooling water. Specially designed units are available to permit a 2° F approach to cooling water temperature, for application where low moisture content is critical.

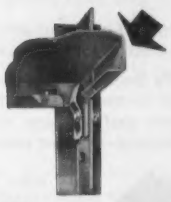
Adams Aftercoolers and Separators are available from stock to handle 20 - 40,000 cfm with 10° cooling and 25 - 19,200 cfm where it is necessary to cool within 2°F of the cooling water. Special units can be supplied to suit an unlimited range of requirements. In all cases the maximum pressure loss at rated capacities is ½ psi.

This wide range of sizes enables the economical utilization of Adams Aftercoolers and Separators in virtually all industrial application. For further information on how R. P. Adams' units will solve your compressed air problems and save you money, write today for Bulletin 711. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

▲ For more details circle **NED-42 C9** on enclosed inquiry slip ▲

LYON® STEEL SHELVING

Patented Clip and Stud design provides lowest cost and quickest assembly plus complete adjustability without the use of bolts, nuts or tools.

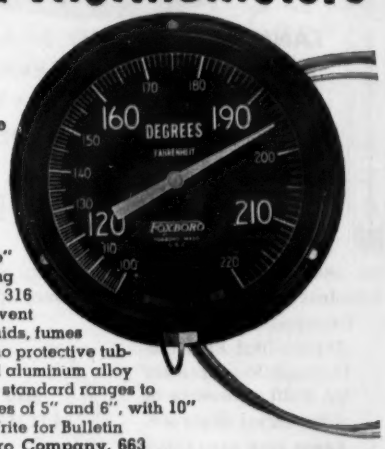


Write for free 84-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-43 C9** on enclosed inquiry slip ▲

"Lifetime" Dial Thermometers



You're always sure of accurate temperature readings with this easy-to-read Foxboro "Lifetime" Dial Thermometer. Welded "one-piece" bulb and connecting capillary tubing of 316 Stainless Steel prevent corrosion from liquids, fumes or vapors. Needs no protective tubing. Tightly sealed aluminum alloy case. Available in standard ranges to 1000°F. — dial sizes of 5" and 6", with 10" and 12" scales. Write for Bulletin 14-11. The Foxboro Company, 663 Neponset Ave., Foxboro, Mass., U.S.A.

FOXBORO Reg. U.S. Pat. Off. — DIAL THERMOMETERS

▲ For more details circle **NED-44 C9** on enclosed inquiry slip ▲

LYON® SERVICE CARTS

2 SIZES
30" long
16" wide
32" high
•
36" long
24" wide
32" high

MADE OF LIFETIME STEEL

Save steps and time in material handling. Have 5" diameter composition rubber wheels—2 stationary and 2 swivel. Formed steel tube push bar. 3" deep, pan type trays. Lyon Green baked-on enamel.
Write for free 84-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

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SOLVE YOUR PACKAGING PROBLEMS with JIFFY PADDED SHIPPING BAGS

Shure Brothers, Inc., of Evanston, Illinois, leading manufacturers of microphones and electronic components, find that Jiffy Bags answer their particular packaging need.

The cushioning of Jiffy Bags absorbs all shocks—protects delicate mechanisms from damage.

Jiffy Bags are flexible—conform to uneven contours, protect contents from shifting. They are neat—eliminate loose fillers and dunnage. And in addition, Jiffy Bags are water resistant—prevent moisture damage.

Write today for time saving, money saving, labor saving—fully illustrated case histories, showing you HOW and WHY—JIFFY PADDED SHIPPING BAGS are used in leading industries.

JIFFY MANUFACTURING CO.
360 FLORENCE AVENUE HILLSIDE, N. J.

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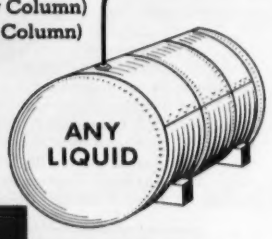
TANK-METER
FOR MEASURING TANK CONTENTS ANY DISTANCE AWAY

TANKS MAY BE ANY SHAPE...
• BURIED OR ELEVATED
• OPEN • CLOSED • VENTED
• UNDER PRESSURE • UNDER VACUUM
• UNDER PRESSURE AND VACUUM
ACCURATE • RELIABLE • DURABLE

Also gauges for:
Barometric Pressure (Mercury Column)
Absolute Pressure (Mercury Column)
Pressure and Vacuum
Differential Pressure
Inclined Manometers
for draft, pressure or differential pressure.
SEND FOR BULLETINS



Uehling INSTRUMENT CO.
496 GETTY AVE.
PATERSON, N. J.
SINCE 1896

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RESTORE...cracked...dried out
...leaky **ROOFS** with a

NEW!

FIBRE GLASS SUPERCOTE ROOF COATING combines Garland's exclusive Microtex* with Miracle Fibre Glass.
Microtex contains millions of particles that leaf together, like scales on a fish, prevent peeling and resist destructive ultra-violet rays of the sun.
Fibre Glass doesn't oxidize—keeps roof coating from blistering, drying out or "pulling away" in hot weather.
Fibre Glass doesn't absorb roofing oils, keeps them "live" and working.
Easy to apply over old or new roofs of felt, composition, concrete, tin, or corrugated. No heating, just use roofing brush or squeegee.

SAVE OLD ROOFS! FREE BOOKLET SHOWS HOW.

The Garland Company
Dept. D3, Cleveland 5, Ohio
Send free Fibre Glass Supercote booklet
Company
Name Title
Address City State

Quality Maintenance Products Since 1895
the sign of GARLAND QUALITY

▲ For more details circle NED-51 C9 on enclosed inquiry slip ▲

SURFACE THERMOMETER
accurate down to −328° F

Response times of 0.72 sec in liquids and 2.2 sec on surfaces are afforded by the Thermophil electronic surface thermometer. The imported instrument accurately indicates down to −328° F and has standard accuracies of ±0.14° C or ±0.25° F. Line includes models ranging from −328 to 845° F or −200 to 450° C. Each instrument has three or four overlapping scales, depending upon the model. Operated by standard batteries, it measures 7 x 5 x 2¼ in. Portable or panel units for alternating current use are offered. Line also includes over 100 interchangeable probe designs and 26 instruments. Available from **Atkins Technical, Inc.**, 709 Marion Bldg., Cleveland 13, Ohio.

▲ For more details circle NED-52 C9 on enclosed inquiry slip ▲

HEAT INDICATING PELLETS
available for 525 and 650° F

Only gaps in the series of Tempil temperating indicating pellets covering the range from 100 to 2700° F in 90 spaced intervals are filled with the introduction of pellets for 525 and 650° F. The lower rating falls in the tool steel tempering range and in the thermosetting level of some new epoxy resins. The 650° F pellets are in the tool steel tempering range, as well as in the heat treating of aluminum and other nonferrous metal ranges. Samples will be sent upon request. Made by **Tempil Corp.**, 132 W. 22nd St., New York 11, N. Y.

▲ For more details circle NED-53 C9 on enclosed inquiry slip ▲

FLUID LINE FILTER
30 and 60-gpm units now offered

Added to company's line of Tell-Tale fluid filters are a plain cylindrical filter cartridge rated at 30 gpm and a "pleated surface" unit rated at 60 gpm. Both withstand pressures to 400 psi, as for filtering the inlet and return lines of hydraulic and metal cutting cooling systems. All units indicate by needle when cartridge requires cleaning or by remote electric switch. Cleaning is accomplished in about 5 min. Line comprises capacities from 5 to 200 gpm. Made by **Rosaen Co.**, 1776 E. Nine Mile Rd., Hazel Park, Mich.

▲ For more details circle NED-54 C9 on enclosed inquiry slip ▲

SPEED UP PRODUCTION with *LANCO* INDUSTRIAL TRAILERS

Lanco No. 895 type Industrial Trailers are the standard of the industry. Highly maneuverable with double ball bearing forged steering casters specifically designed for high speed operations. Lanco Industrial Trailers are available for loads from 4,000 lbs. to 10,000 lbs. Wide choice of couplers, racks, and wheels for hand, tow train, or remote controlled operation.

• INDUSTRIAL TRAILERS
• PLATFORM TRUCKS
• HAND TRUCKS
• CUSTOM FABRICATING
• WHEELBARROWS
• TERMINAL TRUCKS

LANSING CO.
LANCO MATERIAL HANDLING EQUIPMENT
LANSING 3, MICHIGAN
BRANCHES:
BOSTON • MINNEAPOLIS

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New Stanley SURFORM® Miracle Speed Forming Tools

Now you can choose from 6 SURFORM tools for forming and trimming all kinds of materials.
File Type SURFORM is furnished with fine cut flat blade and with regular cut half-round blade as shown here; it is also available with regular cut flat blade, and can be fitted with fine cut half-round blade.
Plane Type SURFORM is furnished with regular cut flat blade and can be fitted with all others.
Pocket SURFORM is furnished with fine cut flat blade as shown.
Convex SURFORM is furnished with fine cut flat blade as shown here, and can be fitted with regular cut flat blade.
Replacement blades are available for all tools.

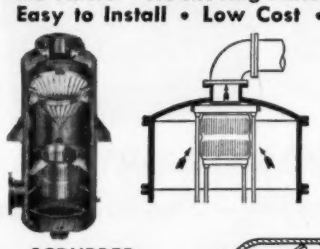
Stanley Tools, Division of The Stanley Works
New Britain, Conn.

STANLEY®

▲ For more details circle NED-56 C9 on enclosed inquiry slip ▲

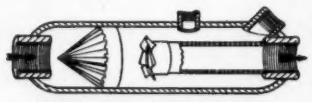
Increase Your Profits With
Centrifix®
SCRUBBERS • PURIFIERS • SEPARATORS

No Filters • No Moving Parts • Self-Cleaning
Easy to Install • Low Cost • Pays for Itself



INTERNAL PURIFIER
Cleans vapor, increases evaporating capacity; for high velocities at low pressure; broad flow range.

SCRUBBER
Guaranteed to remove 99.5% or more of ALL solid or liquid entrainment—dust, fumes, sulfides, fly ash—regardless of size in gas, air, steam or vapor; minimum pressure drop.



LINE-TYPE SEPARATOR
Removes water from steam; increases heat transfer; protects turbines, compressors; keeps compressed air lines free of oil and water. AA-9248

FOR THE FINEST IN SCRUBBING EQUIPMENT STEAM-VAPOR-GAS

Centrifix® CORPORATION
3608 PAYNE AVENUE
CLEVELAND 14, OHIO

All Centrifix equipment is protected by U. S. Letters Patent & Patents Pending

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Get the facts on
ENFORCING FINISH "SPECS"

...with the **BRUSH**
Surfindicator!

✓ MEASURES ANY FINISH
✓ REDUCES REJECTS
✓ MAINTAINS QUALITY
✓ CUTS MACHINING COSTS

WRITE FOR FREE BOOKLETS
"Control the Finish and You Control the Costs" and "American Standards—Surface Roughness, Waviness and Lay."

brush INSTRUMENTS
DIVISION OF CLEVITE CORPORATION
37TH AND PERKINS CLEVELAND 14, OHIO

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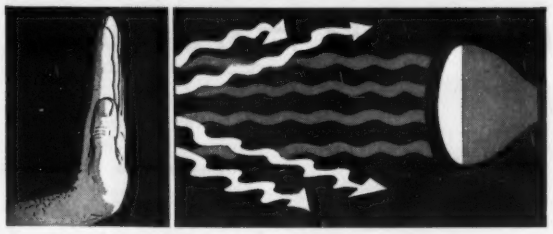


This Glass Reflects Heat

Basically *Electrapane*® is glass with a transparent film of metallic oxide on its surface. This coating acts as a superior radiant heat reflector. Thus, *Electrapane* is ideal for applications demanding a transparent heat shield. Typical: Steel mill crane cab windows.

This coating also conducts electricity. *Electrapane* can be wired and used as a resistance heat source or for electrostatic dissipation. It is used by manufacturers of complete electroluminescent lighting units. *Electrapane* is manufactured in laminated, monolithic, curved or flat form.

Want to know more about this unusual glass? Write Dept. 9239.

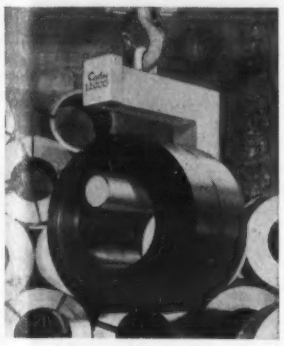
LOF GLASS

Electrapane

LIBBEY • OWENS • FORD GLASS CO.
608 Madison Avenue, Toledo 3, Ohio

▲ For more details circle NED-59 C9 on enclosed inquiry slip ▲

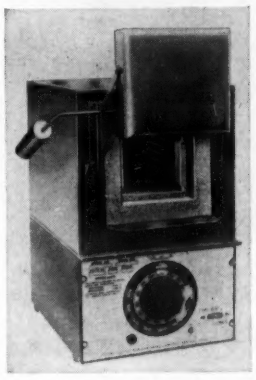
COIL LIFTERS
handle 72-in. wide, 40,000-lb coils



Alloy steel fabricated in box sections assures strength in Cady coil lifters offered in standard sizes to handle up to 40,000 lb coils in widths up to 72 in. Coils are easily loaded and unloaded from trucks or cars and stacked in storage area, or spotted at slitters and shears. Integral counterbalance makes lifter hang level when empty to facilitate coil pickup. Made by Cady **Metal Fabricating Inc.**, 88 Schenck St., North Tonawanda, N. Y.

▲ For more details circle NED-62 C9 on enclosed inquiry slip ▲

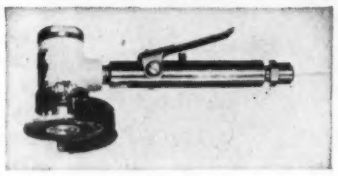
LAB & SHOP FURNACE
bench type operates at 1650° F



Dial type electronic controller of the Type 2000 Thermolyne electric furnace will hold preset temperatures within close limits. The control has no moving parts other than relay contacts and is little affected by vibration, dust, and dirt. The bench-type lab and shop furnace operates continuously at 1650° F and intermittently to 1900° F. It has heavy gage nickel chromium heating coils which are embedded in refractor plates lining the sides, top, and bottom of the chamber. Multiple insulation minimizes heat loss. Door swings out and up, the hot side remaining away from the operator. Chambers of the 115 or 230-v units measure 4 x 3¾ x 9 in. Made by **Thermo Electric Mfg. Co.**, 484 Huff St., Dubuque, Iowa.

▲ For more details circle NED-63 C9 on enclosed inquiry slip ▲

HIGH-SPEED GRINDER
is lightweight pneumatic tool



Maintaining speeds up to 18,000 rpm under load and without vibration, Model 12V-180 angle grinder can be used with depressed-center 3-in. capacity abrasive cutoff wheels. It can also be used as a sander. Tool operates on compressed air. Made by **Reed Roller Bit Co.**, Cleco Air Tools Div., 5125 Clinton Dr., Houston 20, Texas.

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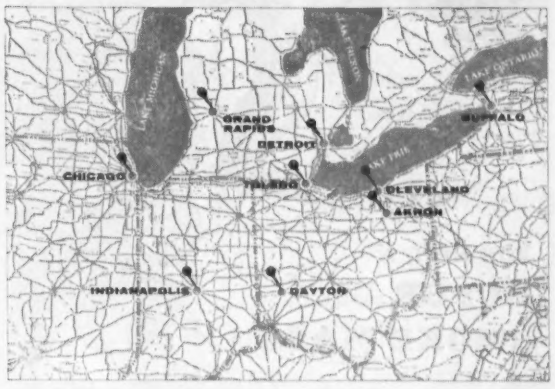
PENINSULAR'S Team of 9 Steel Service Centers working together to give you STEEL plus SERVICE

America's Largest Independent Tool Steel Distributor



TOOL STEELS • ALLOYS • COLD DRAWN • HOLLOBAR
FLAT GROUND STOCK • DRILL ROD • PLATE

Over 40 Years of Service to Industry

PENINSULAR STEEL COMPANY
24401 GROESBECK • P. O. BOX 3853 • DETROIT 5, MICHIGAN
DREXEL 1-9400 • PRESCOTT 8-2121
DETROIT • CLEVELAND • INDIANAPOLIS • TOLEDO • AKRON • DAYTON • CHICAGO • GRAND RAPIDS • BUFFALO

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Just Out! Just the ticket to cut cost!

⅛"—$3.00
¼"—$3.25

ROSS "CUB"

NEW SPEED CONTROL VALVE
⅛" and ¼" pipe sizes in stock now!

Now a speed control valve that regulates your cylinder movement with precision and sureness, but which lists at $3.00 and $3.25. And despite its lower costs, "CUB" features the same high quality of design and workmanship you've come to expect from Ross. "CUB'S" design stresses trouble-free operation and easy maintenance. CUB is small, aluminum and lightweight. If you use speed controls, by all means call your Ross representative or write us.

ROSS OPERATING VALVE CO.
161 E. Golden Gate Ave. • Detroit 3, Michigan

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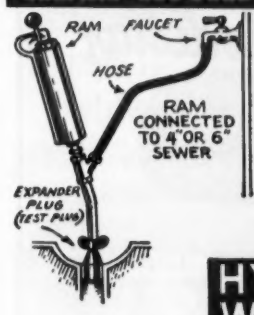
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, plus set of 5 tapered adapter plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!
HYDRAULIC MANUFACTURING CO.
214 INDUSTRIAL HEIGHTS KIEL, WISCONSIN

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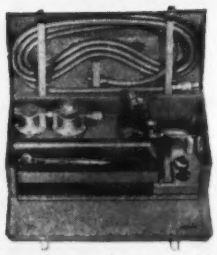
POWER to save time on maintenance

REMINGTON MECHANICS MAINTENANCE KIT



Shown is Remington's Model MM-43 Mechanics Maintenance Tool Kit. Kit includes a ½"-drive, air impact wrench plus accessories that will do 80% of maintenance operations faster and better. Electric impact wrench kit, Model MM-40 also available. Price, Model MM-43, complete, $395.50*. Model MM-40 $247.50*.

You can select almost any kind of portable power tool from the Remington line. For improved toolroom efficiency, standardize on Remington—each tool carries the Remington warranty and is serviced by Remington through the most complete service-station setup of any power tool maker.

**Specifications and prices subject to change without notice. Prices slightly higher in Canada.*

Mail Reader Service Card for Free Catalogs . . .

Remington

Remington Arms Company, Inc.
Bridgeport 2, Conn.
In Canada: Remington Arms of Canada, Ltd.
36 Queen Elizabeth Blvd., Toronto, Ontario.

DU PONT

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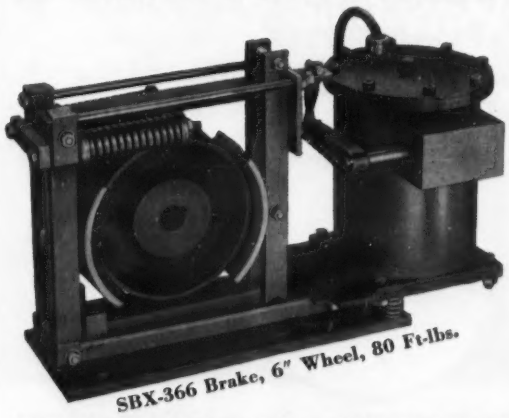
EXPLOSION PROOF BRAKE



SBX-366 Brake, 6" Wheel, 80 Ft-lbs.

SBX-300 LINE EXPLOSION PROOF
Capacities: 10 ft-lbs. to 24,000 ft-lbs.

SB-300 LINE PLAIN SOLENOID BRAKES
Capacities: 3 ft-lbs. to 24,000 ft-lbs. All brakes for alternating current, direct current (series or shunt); hydraulic and air operation. Drip proof, dust proof, water tight, magnetically set, spring set. ALSO: Solenoids for all requirements. ALSO: Recipromotors and Semotors.

Write for data and catalog. See SWEET'S Catalog.

TROMBETTA SOLENOID CORP.
329 NORTH MILWAUKEE STREET • MILWAUKEE 2, WISCONSIN

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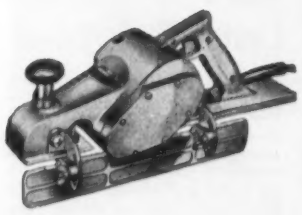
POWER for edge and surface finishing

REMINGTON ELECTRIC PLANE



Shown is Remington's Model 3P, 3" Electric Plane, 115 or 230 volt, 8.4 amp rating—most powerful, heavy-duty production plane made today. Fence is quickly removable for conversion from edge to surface finishing. Price, $170.00*, includes 2 extra blades, sharpening stone, steel case and 15' cord with ground.

You can select almost any kind of portable power tool from the Remington line. For improved toolroom efficiency, standardize on Remington—each tool carries the Remington warranty and is serviced by Remington through the most complete service-station setup of any power tool maker.

**Specifications and prices subject to change without notice. Prices slightly higher in Canada.*

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Remington

Remington Arms Company, Inc.
Bridgeport 2, Conn.
In Canada: Remington Arms of Canada, Ltd.
36 Queen Elizabeth Blvd., Toronto, Ontario.

DU PONT

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YOU NEED A . . .

DUPOR WATER COOLED **SMOKE MASK**

A complete combination of respirator and goggles that provides lung and eye protection for painters, foundrymen, smelters, oil refiners, chemists, firemen, etc. The respirator is water-conditioned with all incoming air passing through cool, clear water. The goggles are the famous "Nod & Shake" fog-proof and gas-tight type. No finer protection, anywhere! Order sample today, $5.00 postpaid.

H. S. COVER, DEPT. 305, SOUTH BEND 14, INDIANA

"Respirators for Industry since 1894"

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CM Lodestar®

electric hoist

LODESTAR FEATURES INCLUDE:

- Safe, heavy duty performance
- Self-adjusting magnetic brake
- Ultra-modern electric braking
- CM-ALLOY flexible link chain

NEW... Larger capacity and higher speed models in 1/2, 1 and 2 tons for faster, lower cost materials handling.

NOW... Greater selection from a complete range of capacities and speeds...1/8 to 2 tons and 8 to 60 fpm.

REQUEST CATALOG AND NAME OF LOCAL STOCKING DISTRIBUTOR

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Chain Corporation
TONAWANDA, N. Y.
NEW YORK • CHICAGO • CLEVELAND
In Canada:
McKinnon Columbus Chain Ltd., St. Catharines, Ont.

▲ For more details circle NED-70 C9 on enclosed inquiry slip ▲

Stop theft or loss of tools and parts--

MARK THEM

with an IDEAL Electric Marking Tool

Cutting with 7200 adjustable strokes per minute, the IDEAL Electric Marker is as easy to use as a pencil. It takes just a few seconds to cut names, stock numbers, part numbers or sizes on parts and equipment on the production line, in warehouses, in toolrooms, or laboratories. Special nameplates may be eliminated since the alloy or diamond points mark directly on anything from hard rubber to steel and glass. It operates on AC current. Sold through leading electrical distributors in America. In Canada: Irving Smith, Ltd., Montreal.

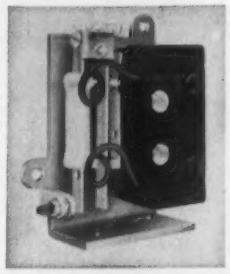
IDEAL

IDEAL INDUSTRIES, Inc.
1032-C Park Ave., Sycamore, Illinois
PLEASE SEND Catalog data on Electric Marker.

Name_____
Company_____
Address_____
City_____ Zone____ State____

▲ For more details circle NED-71 C9 on enclosed inquiry slip ▲

THERMAL TIME DELAY
miniature unit rated up to 20 amp



Snap-action load contacts, automatic ambient temperature compensation, and cast ceramic heater are built into the Series TH miniature thermal time delay timer. Contact rating is up to 20 amp, with 10 amp standard. Various contact arrangements are available. The easily adjustable, self-recycling unit is offered with explosion-proof housings or hermetic sealing. Uses include air conditioning, refrigeration, heater, and exhaust controls, computers, and lighting. Made by **Industrial Timer Corp.**, 1407 McCarter Highway, Newark 4, N. J.

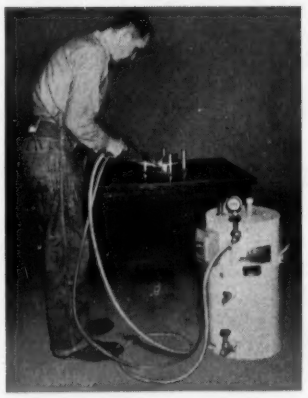
▲ For more details circle NED-72 C9 on enclosed inquiry slip ▲

TURNTABLES
installed in or above floor

Capacities to 10,000 lb, or higher if required, are available in these welded steel turntables. They are easily installed in or above the floor, and rotate on inner and outer ball bearings. Tops are checkered or plain. Tables are custom built to size and weight requirements by **Engineering Products Co.**, 124 S. Michigan Ave., Chicago 3, Ill.

▲ For more details circle NED-73 C9 on enclosed inquiry slip ▲

MIDGET STEAM GENERATOR
plugs into 115 or 230-v outlet



Developing steam to 250 psi at temperatures to 405° F, Series R Speedylectric steam generator can be plugged into 115 or 230-v ac circuits. In addition to supplying an ample quantity of process steam, it is readily converted for steam jet cleaning use by an accessory kit consisting of a steam gun, 12 ft of hose, and 6 ft of detergent hose with a strainer. The four single-phase models combine safety and self-regulating characteristics of the electrode boiler with the precise control inherent in resistance heating. Made by **Pantex Mfg. Co.**, Speedylectric Div., Pawtucket, R. I.

▲ For more details circle NED-74 C9 on enclosed inquiry slip ▲

Buschman

Portable yet rugged . . . Now ALUMINUM gravity conveyors by Buschman make it easy to set up efficient systems "on the spot" for efficient handling in all types of industry.

"QUICK-EEZ" Coupling—both ends the same—keeps your system *flexible* for cost cutting—customized handling. Rearrangement is faster—more economical.

NEW Bulletin 19 gives complete specifications on Buschman ALUMINUM Wheel & Roller Conveyors. Write today!

C-347-EWB

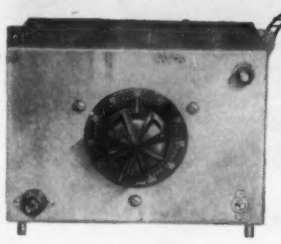
Every Way Better

EWB THE E. W. BUSCHMAN CO.
4482 Clifton Avenue Cincinnati 32, Ohio

CONVEYORS FOR EVERY INDUSTRY

▲ For more details circle NED-75 C9 on enclosed inquiry slip ▲

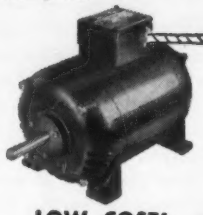
ADJUSTABLE zero/full **SPEED DRIVE**



All "MOTORFORMER" drives use silicon rectifiers . . . seemingly the ultimate in efficiency and low maintenance. Worthy companion to the unsurpassed Servo-Tek "Precision" Drives. Write for complete catalog with prices.

FEATURES

- S-m-o-o-t-h adjustment from zero to full rated speed.
- Full rated torque at any speed.
- No warm-up required.
- 17 models — from 1/20 to 3/4 hp.
- Reversing and dynamic braking available on all models.
- Geared motors supplied from stock!



LOW COST!
typical price
$239.00
1/2 HP with MOTOR

Servo-Tek PRODUCTS CO INCORPORATED

Main Office
1086 Goffle Road, Hawthorne, N. J.
Western Office
14736 Arminta St. Van Nuys, Cal.

▲ For more details circle NED-76 C9 on enclosed inquiry slip ▲

for your

magnet problems

F-300 CERAMIC

PERMANENT MAGNETS

- ✓ Economical Piece Price
- ✓ Economical Tooling
- ✓ Prompt Delivery
- ✓ Engineering and Sample Service

for

- ✓ Latches
- ✓ Can Openers
- ✓ Toys, Games, Novelties
- ✓ Bulletin Boards
- ✓ Etc.

Write for Brochure 1-59

d. m. STEWARD MANUFACTURING CO.
3620 Jerrome Ave.
Chattanooga 1, Tenn.

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NEW PRECISION HOLE GAGE

Requires no "Masters" Rings or Setting Blocks

MECHANICAL
RUGGED
PORTABLE

FREE!
Bul. # SSC-B1
Write for your copy

- Range .370" to 1.510"
- Calibrated to .000010" accuracy
- Sets any hole size to .000025"
- .005" direct-reading linear scale
- Priced to fit your budget

SI-1058.2

SUNNEN® SERVICE CORP.
7933-C Manchester St. Louis 17, Mo.

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how to keep costs down

...profit margins up!

ALLEN engineers will show you how to save time and money by using STANDARD* ALLEN Hex-Socket Cap and Set Screws instead of specials.

Designs frequently call for *special* hex-socket cap and set screws that are only slightly "off-standard." These take longer to get, cost more.

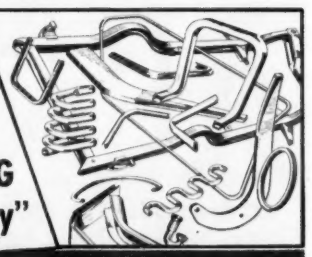
Ask ALLEN engineers to recommend ways to use STANDARD* ALLENS instead of these specials. Just send blue prints or good descriptions of your product designs to our Engineering Department, or talk with your Allen Field Representative.

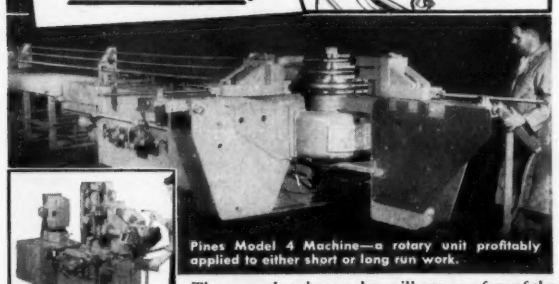
***ALLEN manufactures 1457 STANDARD items**
Stocked and sold by leading industrial distributors everywhere

ALLEN MANUFACTURING COMPANY
Hartford 1, Conn., U.S.A.

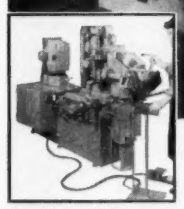
▲ For more details circle **NED-79 C9** on enclosed inquiry slip ▲

FOR THE LATEST
Cost-Cutting Methods
INVESTIGATE
COLD BENDING "The PINES-Way"





Pines Model 4 Machine—a rotary unit profitably applied to either short or long run work.



New Pines 3-T Progressive Bending Press makes quality bends in stock up to 1" O.D. at 2 to 3 times faster than ordinary machines. Larger units available.

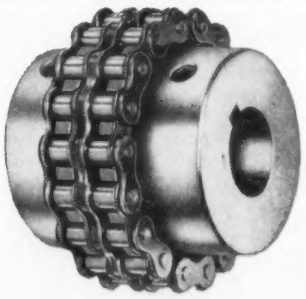
The examples shown above illustrate a few of the many different jobs which are today more profitably produced on Pines Bending Machines or Bending Presses. New Machines and tooling techniques developed over the years are now effecting substantial savings in production costs. If your products require the cold forming of round, square, rectangular, extruded, or hollow stock to one or more different angles, it will pay you to investigate cold bending the "Pines-Way." Write today for more facts or assistance without obligation on any specific job.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery) 639 WALNUT • AURORA, ILLINOIS
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

Free DATA SHEETS For latest data on new bending methods, write for issues of Pines News.

▲ For more details circle **NED-80 C9** on enclosed inquiry slip ▲

NEW



REX®

Roller Chain Flexible Coupling

Because of its design, you install it in a jiffy. Just line up the sprockets, wrap around the double-strand all-steel chain, insert the single pin and cotter, and you're ready to throw the switch.

Because it's all-steel, you get long life at low cost—and the strength to absorb shock and vibration.

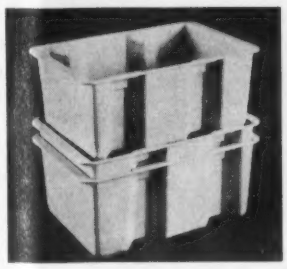
Send today for your copy of the new catalog on Rex Roller Chain Flexible Couplings. It tells how to pick the exact coupling for your job and conditions of service. CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

In Canada, write Chain Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto

CHAIN BELT

▲ For more details circle **NED-81 C9** on enclosed inquiry slip ▲

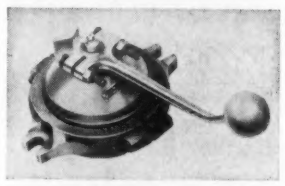
PARTS HANDLING BOXES
nest compactly for storage



Usable in all types of industries involving handling of parts or assemblies, Model 539-1 tote-boxes are made of strong plastic - reinforced fiber glass. Light in weight and durable, they have four lugs for easy stacking or tiering when full, and they nest compactly for space-saving storage or handling when empty. They are resistant to chipping, rot, corrosion, and cleaning operations. These $19\frac{7}{8}$ x $12\frac{5}{8}$ x 8-in. boxes are made by **Molded Fiber Glass Tray Co.**, Linesville, Pa.

▲ For more details circle **NED-82 C9** on enclosed inquiry slip ▲

THROTTLING CONTROL VALVE
controls presses, hoists, lifts

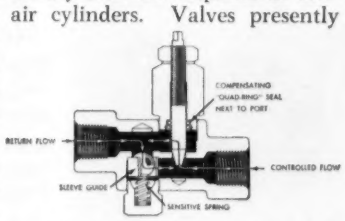


Precise throttling for repeatable control of presses, hoists, gates, doors, lifts, clutches, brakes, chucks, and molding machines is featured by Model 300 multiport, three and four-way, flat disc-type control valve. Unit actuates single or double-acting cylinders and can be used with air, water, hydraulic fluid, or oil at up to 300 psi. Bumper screws on operating lever regulate the piston speed. Trapezoid-shaped ports on valve base and disc allow modulated throttling. Three sizes cover five pipe sizes from $\frac{1}{4}$ to 1 in. Made by **W. H. Nicholson & Co.**, 12 Oregon St., Wilkes-Barre, Pa.

▲ For more details circle **NED-83 C9** on enclosed inquiry slip ▲

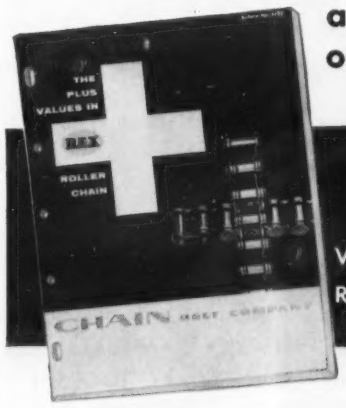
FLOW CONTROL VALVES
oversize passages sharpen response

Oversize internal passages and large ports of this flow control valve assure accuracy and fast response in control of hydraulic or air cylinders. Valves presently have forged aluminum bodies and are designed for 3000 psi pressures. Super - sensitive check valve permits full flow in one direction, whereas a tapered, pointed vernier thread needle provides wide range of flow adjustments in the controlled direction. Valves are available in standard, dial, and knob models for in-line mounting, and dial and knob models for mounting in steel panels from $\frac{1}{8}$ to $\frac{3}{8}$ in. thick. Each model is offered in $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{3}{4}$-in. Dryseal female pipe sizes. Made by **Auto-Ponents, Inc.**, 3001 Grant St., Bellwood, Ill.



▲ For more details circle **NED-84 C9** on enclosed inquiry slip ▲

GET BULLETIN 5725



and find out about...

THE PLUS VALUES IN REX ROLLER CHAIN

Yes, find out about the special design and manufacturing techniques that make an important difference...*put a plus value* in Rex Roller Chain. Learn about the rigid quality control that gives you a better chain...consistently.

Bulletin 5725 explains why Rex Roller Chains last longer ...why Rex Roller Chains have greater resistance to fatigue and failure. Write today for your copy of Bulletin 5725, "The Plus Values in Rex Roller Chain." CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN Belt Canada Ltd., 1181 Sheppard Ave. East, Toronto Ontario

CHAIN BELT

▲ For more details circle **NED-85 C9** on enclosed inquiry slip ▲

OHMITE®
THE QUALITY LINE OF INDUSTRY-PREFERRED COMPONENTS

"V.t."
VARIABLE TRANSFORMERS
GIVE A "BONUS" IN CURRENT CAPACITY

Ohmite now offers six basic models with current ratings sufficient to meet most industrial applications. All VT units *give a sizeable "bonus" in current* when the overvoltage feature is not required (see "N" suffix below). Variable Transformers are also available in enclosures, tandem assemblies, and with many special features.

BASIC MODELS (without overvoltage)

VT4
VT4N

MODELS All inputs 120vac*
VT2N—Volts output: 0-120 Amps output: 1.8
VT4N—Volts output: 0-120 Amps output: 4.75
VT8N—Volts output: 0-120 Amps output: 10.0
*Units available for 240-volt input also.

Write for Bulletin 151

OHMITE Manufacturing Co.
3620 Howard Street
Skokie, Illinois

RESISTORS RELAYS TAP SWITCHES
RHEOSTATS TANTALUM CAPACITORS
R. F. CHOKES VARIABLE TRANSFORMERS DIODES

▲ For more details circle **NED-86 C9** on enclosed inquiry slip ▲

NOW!
Branded for lifetime identification

HOW IT'S DONE:
The mark is embossed onto, not stamped into, the chain.

CHAIN BUYERS & USERS—Now you can be sure of the make of chain you are getting and of the grade (strength) of the chain you are using...a definite safety advantage. Available on Inswell Proof Coil, BBB, High Test and the ½" and smaller sizes of Herc-Alloy chain.

SPECIFY "CM" CHAIN

CM CHAIN

COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
Regional Offices: NEW YORK
CHICAGO • CLEVELAND
SAN FRANCISCO • LOS ANGELES

In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ont.

▲ For more details circle **NED-87 C9** on enclosed inquiry slip ▲

FREE BOOK ON BEARINGS

Gives you complete data on the industry's most complete line of mounted roller bearings—Shafer.

This new Shafer catalog is compiled specifically to help you meet the increased responsibilities of building greater speed, higher load capacities and longer life into your equipment.

It is packed with factual information on roller bearing design—specifications, lubrication, seals and installation features that protect your equipment. Send for your free copy. CHAIN Belt Company, 4686 W. Greenfield Avenue, Milwaukee 1, Wis. In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave., East, Toronto.

SHAFER®
BEARINGS
CHAIN BELT

▲ For more details circle **NED-88 C9** on enclosed inquiry slip ▲

New GEMCO ROTATING CAM LIMIT SWITCH

PRECISION CAM ADJUSTMENT WITH A SCREW DRIVER . . . IN SECONDS!

One type cam . . . no special cam lobes required.

Snap Action Switches, N. O. and N. C.—electrically separated

2 through 12 circuits. Available in NEMA 1, 4, 5, 7, 9 and 12 enclosures.

Please send Bulletin 558 for complete story of new Gemco Rotating Cam Limit Switches.

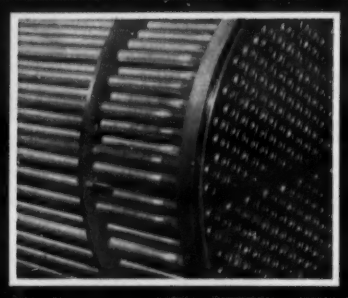
NAME ____

COMPANY ____

CITY ____ ZONE ____ STATE ____

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

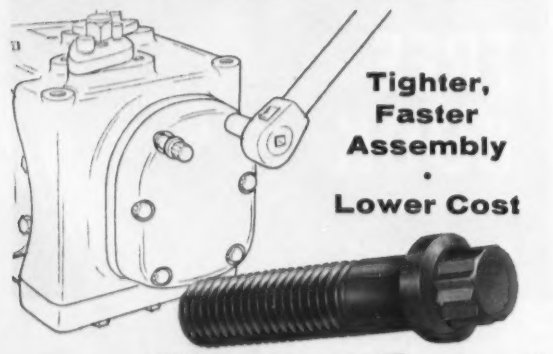
▲ For more details circle NED-89 C9 on enclosed inquiry slip ▲



Transferring Heat?

See Page 97

▲ For more details circle NED-90 C9 on enclosed inquiry slip ▲



Tighter, Faster Assembly • Lower Cost

with **count-bor®** Screws

Tighter wrenching. No special tools needed. Fits flush in standard counterbored holes. Improves product appearance.

Save up to 20% on the screws alone and get greater holding strength.

Send for literature and samples of the sizes you wish to try.

FERRY CAP & Set Screw Company
2193 Scranton Road • Cleveland 13, Ohio

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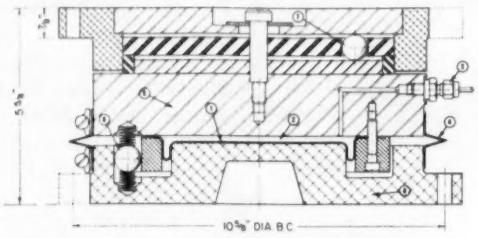
SWEEP-SECOND TIMER instantly resets to zero

Built with a stopwatch action, this sweep-second stop-clock timer starts and stops with the lever on the left. A regular flyback lever is on the right. Both sweep second hand and minute hand instantly return to zero when the lever is pushed. The 4-in. round dial is white with black numerals and black hands. Price is $21. Distributed by **Burke & James, Inc.**, 321 S. Wabash Ave., Chicago 4, Ill.

▲ For more details circle NED-92 C9 on enclosed inquiry slip ▲

HYDRAULIC LOAD CELLS rated 5000-lb capacity

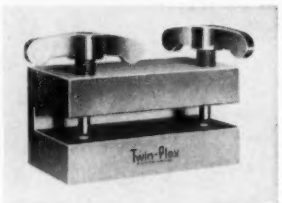
Line of Way-Pac load cells formerly available only in the 0 to 1000-lb range has been extended to include this 5000-lb capacity unit. Cells are offered in simple



compression, compression with "rolling ball" head, tension, cable tension, and strut cell designs. A tank pivot completes the new addition. Used primarily for tank weighing in the process industries, load cells can be teamed with hydraulic, pneumatic, or electrical instrumentation. Made by **A. H. Emery Co.**, Pine Street, New Canaan, Conn.

▲ For more details circle NED-93 C9 on enclosed inquiry slip ▲

PAPER DRILL punches 75 drawings at one time



Holes that accommodate standard metal binders and binding clips can be punched in large, bulky, and hard-to-store drawings and prints with this Twin-Plex paper drill. Unit will drill up to 75 sheets at one time. Two ¼-in. hollow steel drill heads with beveled cutting edges are set on 2¾-in. centers and are individually manipulated by screw mechanisms. Throat opening in metal block handles up to 75-paper thicknesses and provides paper margins up to 1⅝ in. wide. Drill sells for $14.95 and is made by **Twin-Plex Co.**, 1700 Fulton Rd. N. W., Canton, Ohio.

▲ For more details circle NED-94 C9 on enclosed inquiry slip ▲

a CIRCO steam cleaner

your most valuable plant maintenance tool!

A single CIRCO unit steam cleans: MACHINERY • PARTS • UNIT HEATERS • TOOLS • MOTORS • ENGINES • SHOP FLOORS • BUILDING INTERIORS • EXTERIORS

Use it for hundreds of industrial plant maintenance applications . . . with or without detergents for cleaning and rinsing.

AS LOW AS $495.00

Write for detailed bulletin!

SINCE 1923 CIRCO

CIRCO EQUIPMENT COMPANY
51 Terminal Avenue
Clark (Rahway), New Jersey
Telephone: FUlton 8-8600

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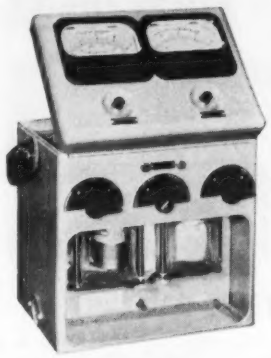


HEAT PROVER Analyzer
25 lb, 11"W, 11"H, 8"D

TUNE UP FURNACES with Dashboard Simplicity

Your money back if not satisfied

For five-times-faster combustion testing, try this fuel-saver. It tells you *what's happening* as you make furnace adjustments; not what happened! No guessing, no spot readings to average. Sturdy, portable, simple, and easy to use. Compare it to an Orsat. *If you're not convinced in 60 DAYS we refund your money.*

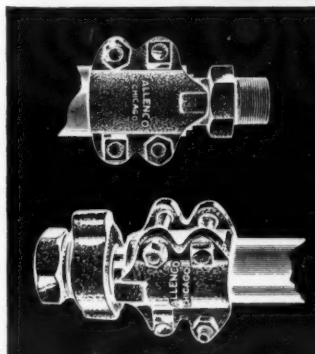
Price: $980.00; includes HEAT PROVER Analyzer and Standard Accessories. Offer valid in Continental U.S. only.

To order or get additional facts, write us direct, or contact any of our 24 District Offices.

BAILEY METER COMPANY
1086 Ivanhoe Road • Cleveland 10, Ohio

▲ For more details circle NED-96 C9 on enclosed inquiry slip ▲

there's an **Allenco** coupling and clamp for every job!



You name it . . . Allenco has the double-fisted coupling or clamp to fill your need.

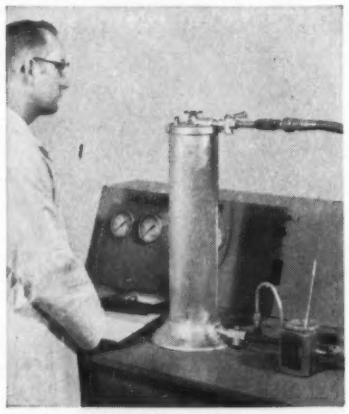
RUSTPROOF! Durable malleable iron couplings and clamps are rustproof cadmium plated.

LEAKPROOF! High pressure porosity testing assures leakproofing! Ground joint, with copper insert, or asbestos washer type females.

COMPLETE SELECTION! Choose from a wide selection of models, materials, sizes and threads to fit any hose and assure an even grip all around.

W. D. ALLEN Manufacturing Co.
650 South 25th Avenue
Bellwood, Illinois
ALLEN . . . quality products since 1887

▲ For more details circle NED-97 C9 on enclosed inquiry slip ▲



DRIES AIR FOR LABORATORY USE

$185 net, f.o.b. Pittsburgh

For testing the effects of moisture in air on various products and processes . . . or to provide a dry atmosphere in which to cool materials . . . the Laboratory Lectrodryer is an ideal, inexpensive unit. It dries up to 100 cubic feet per hour of air, and most other gases, to dewpoints as low as —60°C. The Laboratory Lectrodryer is light, portable, only a 500 watt load.

This standard unit is available for immediate shipment. Write Pittsburgh Lectrodryer Division, McGraw-Edison Company, 325 32nd St., Pittsburgh 30, Pennsylvania.

Lectrodryer® McGRAW EDISON

▲ For more details circle NED-98 C9 on enclosed inquiry slip ▲

FOR MAXIMUM CAPACITY IN MINIMUM SPACE . . .

THE VERSA MANIFOLD MOUNT VALVE

The Versa Manifold Valve has been especially designed for use where space is at a premium.

All piping can be installed, connected to manifold plate and even purged before installation of the valve itself. The valve is then simply bolted into place on the manifold plate. The valve proper, being independent of the piping, can be easily removed for service or replacement without disconnecting piping or disassembling the valve.

Versa Control Valves are available with any type of actuating device in sizes from 1/8" to 1" NPT, in 2-, 3-, 4-, and 5-way, type, and for pressures from partial vacuum to 500 PSIG.

All Versa Valves are triple pressure and functionally tested under water for guaranteed leakproofness.

Over 110,000 Variations . . . Ready for Immediate Delivery!

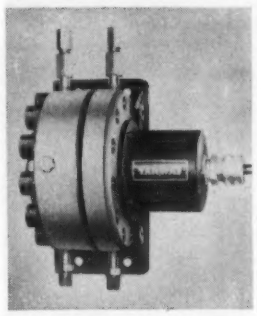
VERSA

Write today for your free copy of Versa's Catalog #14.

VERSA PRODUCTS COMPANY INC.
249-A SCHOLES STREET
BROOKLYN 6, N. Y.

▲ For more details circle NED-99 C9 on enclosed inquiry slip ▲

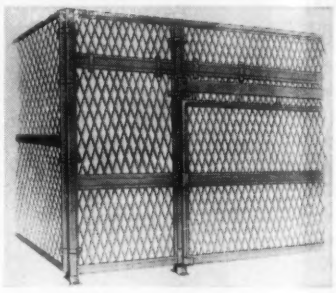
DIFFERENTIAL TRANSMITTER operates without visual indication



This differential pressure transmitter consists of a diaphragm mechanism in a pressure housing and a sensing coil protected by a weatherproof cover. Instrument operates without visual indication. It is connected to liquid vessel, fluid line, or other container by two tubes to opposite sides of the diaphragm. Differential pressure variations on diaphragm cause change in sensing coil output which is transmitted to remote receiver. Fast response, simple installation, and broad range adjustment are featured. Made by **Yarnall-Waring Co.**, 131 Mermaid Lane, Philadelphia 18, Pa.

▲ For more details circle NED-102 C9 on enclosed inquiry slip ▲

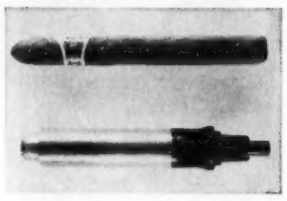
EXPANDED METAL PARTITIONS shipped ready to erect



In-plant partitioning and guarding of conveyors and machines is facilitated with Safe-Gard expanded metal partitions and panels, recently acquired by this company. Partitions are shipped ready to erect with Quick-Erect fittings. No cutting, drilling, or welding is required. Panels have welded construction, are rigid and strong, and will not ravel or fray. Made by **Globe Co.**, Products Div., 4000 S. Princeton Ave., Chicago 9, Ill.

▲ For more details circle NED-103 C9 on enclosed inquiry slip ▲

PNEUMATIC SCREWDRIVER miniature unit has nonslip clutch



No larger than a cigar, the 14,000-rpm, 8-oz Desoutter air-operated screwdriver facilitates the assembly of such products as instruments, clocks, radios, and electrical appliances. Impact type nonslip clutch is automatically controlled by the resistance of the screw or nut to further tightening. Once its pressure reducing valve is set, all screws or nuts will be driven to the same tension. An automatic on-off control protects the screw head from damage. A reversing switch is optional for disassembly work. Available from **Newage Industries, Inc.**, 222 York Rd., Jenkintown, Pa.

▲ For more details circle NED-104 C9 on enclosed inquiry slip ▲

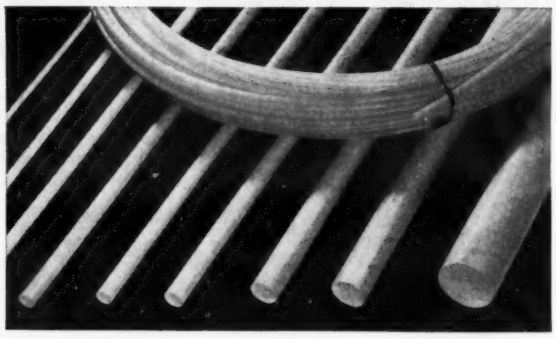
TIMING RELAYS —That Stay Accurate

Bulletin 849 pneumatic timers provide accurate and reliable operation. Time delay is easily adjustable from 1/20 to 180 seconds, ± 10%. Auxiliary contacts easily added. Send for Publication 849.

Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY MOTOR CONTROL QUALITY

▲ For more details circle NED-105 C9 on enclosed inquiry slip ▲



Guaranteed Bubble-Free CHEMISEAL® Nylon Rod

End rejection of screw machine parts due to bubbles. CHEMISEAL Nylon Rod has excellent mechanical properties . . . resistant to chemicals, oils, grease, solvents.

Standard sizes from 1/16" to 3/4" diameters in 6-8' lengths, 7/8" to 3" diameters in 3-4' lengths. Larger sizes will be supplied on special order.

Just pick up the phone and call your nearest Garlock sales office or warehouse. They will deliver any quantity you need, anywhere you need it. Or, drop a line to

United States Gasket

THE GARLOCK PACKING COMPANY
Palmyra, N. Y.

Plastics Division of GARLOCK

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Can You Call a Man a "Failure" at Thirty?

Men who think that success is only a matter of "a few years" are failures . . . however young they are!

How often have you heard some young man in business say, "I'll admit the job I have now isn't much but, after all, I'm only in my twenties."

Or: "Just about every executive in the company I work for is between 45 and 65. I have plenty of time to get ahead."

This *mistaken* idea that success comes automatically with time is easy to understand. Promotions do come regularly and effortlessly to young men of promise. *But* the day arrives, often abruptly, when that promise must be *fulfilled*. Native ability and intelligence can carry a man only to the midway point in business—beyond that he must *prove* his capacity to justify a position of executive responsibility. That calls for a practical, working knowledge of business fundamentals.

The time to build that knowledge—to lay a solid groundwork for your future progress—is now . . . *now* while time is still on your side. If you fail to recognize that fact, you'll know only struggling, skimping and regret when your earning power should be at its height.

FOR THE BUSINESS MAN WHO REFUSES TO STAGNATE

HALF the world is half asleep! Men who could be making twice their present salaries are coasting along, hoping for promotions but doing nothing to bring themselves forcefully to the attention of management. They're wasting the most fruitful years of their business lives... throwing away thousands of dollars they'll never be able to make up.

If *you* want to discover how to start to succeed while you're still young—if you want to avoid the heartbreak of failure in later years—send today for "Forging Ahead in Business" ...one of the most practical and helpful booklets ever written on the problems of personal advancement. You will discover what the qualifications of an executive are in today's competitive market . . . what you must know to make $15,000, $20,000 or more a year . . . what you must *do* to accumulate this knowledge.

"Forging Ahead in Business" was written for ambitious men who seriously want to get down to bed-rock in their thinking about their business future; there's no charge for the booklet because, frankly, we've never been able to set a price on it that would reflect its true value. Some men have found a fortune in its pages. If you feel that it's meant for you, simply fill out and return this coupon. Your complimentary copy will be mailed to you promptly.

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Modern Business

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NEW 2-SPEED SKIL RECIPRO SAW

cuts anything that can be sawed by hand ...easier, better, and 5 to 20 times faster!

WRITE TODAY!

New 2-speed feature obsoletes all other reciprocating saws. High-speed for fastest cuts in wood, compositions; low-speed for fast metal cuts with minimum blade wear. The right cutting speed for every job—no single compromise speed.

Plus these features:

- **Exclusive two-position shoe**—Doubles blade life. When one blade section wears out, another part can be used.
- **Off-center blade location**—Cuts close to corners, right or left, up or down, because blade has off-center location and can be reversed in blade clamp.
- **Only 3 main moving parts**—Simple, rugged design. All ball-bearings. Parts subject to wear are heat-treated steel.

SKIL

SKIL Corporation, Dept. NED-39
5033 N. Elston Ave., Chicago 30, Ill.

Send me FREE brochure (No. F-14499) containing full details of the new SKIL Recipro Saw and illustrating the many ways it can be used.

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HANSEN Automatic TACKERS

36 MODELS 80 STAPLE SIZES

Fast, dependable, sure . . . Hansen Tackers make tacking a pleasure on all kinds of jobs. Be sure of getting the best . . . choose a Hansen Tacker now!

For Labeling, Displays, Insulation, Decoration, Assembly Work . . . many others

WRITE today for free Hansen booklet.

A. L. HANSEN MFG. CO.

5164 Ravenswood Avenue • Chicago 40, Illinois

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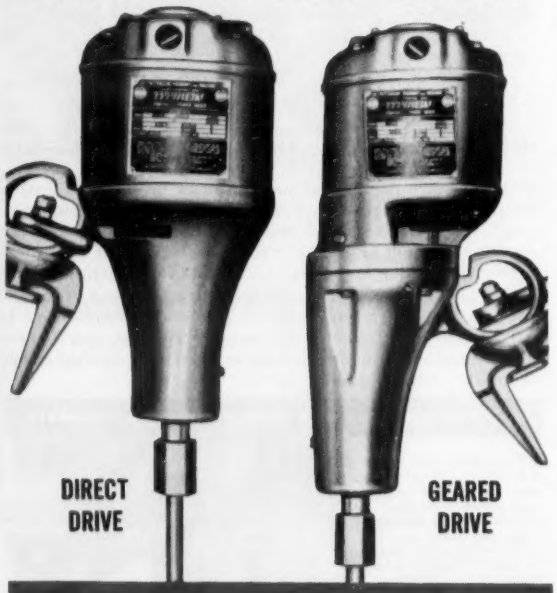
FOR LOWEST COST BATCH MIXING!

THE Patterson TYPHOON

PORTABLE POWER MIXERS



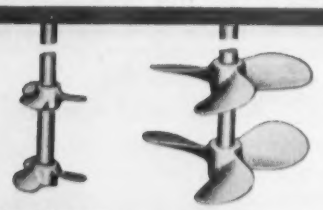
DIRECT DRIVE

GEARED DRIVE

QUALITY CONSTRUCTION ECONOMICALLY PRICED IMMEDIATE DELIVERY

Built for continuous, heavy-duty service, Patterson TYPHOON handles efficiently a wide range of mixing applications, with the ease of portability that makes it practical to use one Typhoon for several vessels—assuring lowest possible mixing costs. Quality construction includes locking adjustment for any operating angle; balanced, fully adjustable propellers; wide-spaced bearings; propellers and shaft of any desired metal.

Direct Drive models handle solutions to 500 centipoises—Geared Drive to 4000 centipoises. Open or explosion-proof motors, ¼ to ¾ H.P. Write for Bulletin and prices.



THE Patterson FOUNDRY AND MACHINE COMPANY

A Division of Ferro Corporation

East Liverpool, Ohio

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STROBOSCOPIC TACHOMETER gives readings without contact

Portable, self-contained J 6789 Uni-Tac stroboscopic tachometer is a probe type device which requires no outside power source. It provides accurate revolutions - per - minute readings of any rotating or reciprocating mechanism over a wide speed range. No mechanical contact with the revolving object is required. The transistorized Uni-Tac utilizes a controllable intermittent flash of light on the rotating object to measure speed. Made by **Kent-Moore Organization, Inc.**, 28635 Mound Rd., Warren, Mich.

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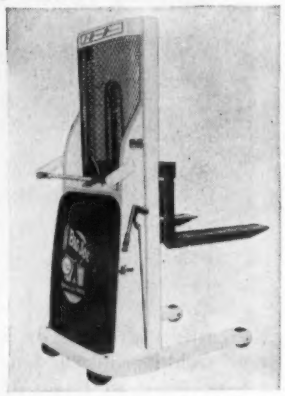
POWER LIFT TRUCK rated 1000 lb



Capable of lifting a 1000-lb load to 57-in. height, Model 299 lift truck is equipped with a 12-v industrial battery and a built-in charger. This hydraulically actuated mobile elevating truck is suited for a wide range of stacking and handling operations. Price is $299. Made by **Big Joe Mfg. Co.**, Industrial Road, Wisconsin Dells, Wis.

▲ For more details circle NED-110 C9 on enclosed inquiry slip ▲

MOTOR PROTECTOR guards against overheating

Safeguard against all of the abnormal conditions which can occur in single-phase induction motors to cause overheating and burn-out is provided by the Klixon Type T inherent overheat motor protector. Among these conditions which are protected against are running with both start and main windings in the circuit, locked rotor with start winding only in circuit, locked rotor caused by low voltage, and locked rotor with main winding only in circuit. The protector with automatic reset has silver clad contacts, terminals, and certain other components. Solder connections are standard, and screw type are optional. Made by **Metals & Controls Corp.**, Spencer Div., 1500 Forest St., Attleboro, Mass.

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Solves the "MIST"ery . . . assures the "MASTERY" of all spraying jobs.

Champion Super

Economical . . . you buy one self contained unit with 3 interchangeable nozzles.

Rugged . . . precision designed to withstand continuous use in industry.

Portable . . . only source of power is 110 volt A.C. outlet

Paints, primers, high and low viscosity liquids for disinfectant use, chemicals, fire retardants, cleansers, oils and other type lubricants . . . practically anything that is sprayed . . . is sprayed *better* with the Champion Super.

The Swiss built Champion Super is a revolutionary tool designed for all types of spray application. Each part is precision fitted . . . no "molded together" parts. Nozzle pressures controlled by single knob adjustment. Density of spray for different viscosities is varied by interchanging nozzles supplied. 28 ounce acid resistant plastic reservoir included. Champion Super will surpass the requirements of painters and craftsmen the world over.

1 year warranty, comprehensive instructions included only $69.50 complete

For additional information write to Dept. CP-3.

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U.S. Distributors

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TURN EMPTY DRUMS INTO WASTE CONTAINERS

Cover up rubbish, scrap. Stop "match throwing" fires. United lids are low cost; bonderized to resist corrosion; feature two doors. Adjustable screws assure rigid fit. Catalog on request.

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UNITED

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'Custom Engineered Waste Receptacles'

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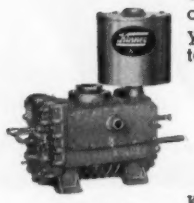
Is Your Research Hampered by Outdated Vacuum Equipment?

Developments in KINNEY High Vacuum Equipment are extensive and dramatic. They must be to keep abreast of today's accelerated research. For your laboratory and pilot plant, look to—

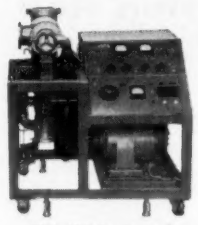
Kinney® HIGH VACUUM



KINNEY High Vacuum Pump

KINNEY High Vacuum Pumps provide you with the most comprehensive selection in the world . . . Single-Stage and Two-Stage Mechanical Pumps and the famous KINNEY Two and Four-Stage Mechanical Booster Pumps.

KINNEY Packaged Pumping Systems, consisting of Cold Trap, high speed Fractionating Diffusion Pump, two-stage gas-ballasted mechanical Vacuum Pump and complete instrumentation forms an attractive highly versatile laboratory tool. Unique manifold valve arrangement, whereby the intake fitting may be rotated through 90°, quickly converts unit into a highly efficient Vacuum Evaporator unit.



PW-400 Packaged Pumping System

Write for Bulletins

KINNEY MFG. DIVISION

THE NEW YORK AIR BRAKE COMPANY

3612C WASHINGTON STREET • BOSTON 30 • MASS.

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IDEAL FOR YOUR DESIGN, RESEARCH, ENGINEERING AND PRODUCTION DEPARTMENTS

Ideal because it directs all the light where you want it. With a light touch of the hand you raise, lower, turn, or tilt it to any angle . . . get the desired focus and direction.

Cool and comfortable to work under too, because you eliminate reflections and disturbing shadows—and provide glare-free illumination.

LUXO

Luxo Lamps provide the proper lighting on machinery, instruments, assembly lines, drawing boards, desks and over typewriters. Lamps can be mounted or positioned anywhere.

Vast numbers of Luxo Lamps are now in use in offices, laboratories and factories throughout the world—testimony to the universal acceptance of our products. Write for complete catalog.

UL & CSA approved.

LUXO LAMP CORPORATION

Portchester, N. Y. San Francisco, Cal. Montreal, Que.

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Investigate the life-saving

Dillon DYNA-SWITCH

A Silent Watchman It Never Sleeps!

- Stops hoist & crane overloading
- Automatically cuts off power to motor when load exceeds pre-set weight.
- Can also ring bells, operate warning lamps, etc.
- Assures protection for personnel & equipment
- Easy to install. Hook models optional.
- Lightweight, compact, dead accurate.
- Working range 500 to 20,000 lbs.
- Will flex millions of cycles without losing resiliency.

YOURS FREE! Illustrated brochure and low price list. Write today!

W. C. Dillon & COMPANY, INC.

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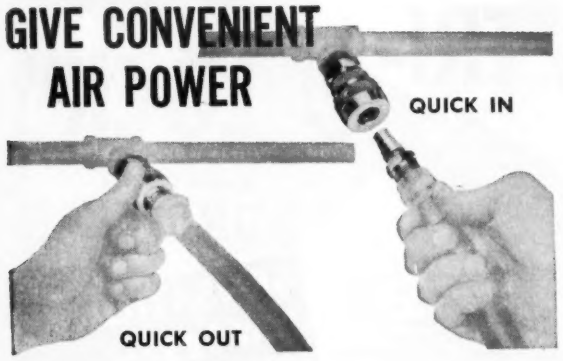
QUICK-ACTING COUPLERS GIVE CONVENIENT AIR POWER



Save time and trouble by plugging in your air tools close to the work. A simple push locks air line in place, automatically starts air flowing. Swivel action prevents hose kinking. Line cannot be accidentally uncoupled—it requires a definite twist on the sleeve. Uncoupling automatically shuts off air. Available in many sizes of check units and adapters, male and female threaded, heavy duty and standard. Place them conveniently along walls, benches or columns for best use of your air tools. **Send for full details in informative literature today.**

Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

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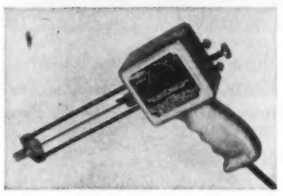
ELECTROLUMINESCENT PANELS
several available panel forms give light in any of six colors

Many applications are expected for electroluminescent panels which now emit a soft glow of light in any one of six colors, instead of the single green color previously available. The glare-free, cool light emanates from specially coated glass or metal panels, available in various sizes. Brightness depends on the color itself and the applied operating voltage and frequency. Panels operate on either 120 or 240 v ac.

Segmented figure-8 block, shown in multiple unit, lights up into any number from 0 to 9 by applying current to the proper segments. Measuring 1 x 1½ in., it can be combined in a strip for up to 8-digit numbers. Also available is an X-Y coordinate panel which produces a luminescent pattern when voltage is applied between one horizontal line and one vertical line. Made by **Radio Corp. of America**, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.

▲ For more details circle NED-119 C9 on enclosed inquiry slip ▲

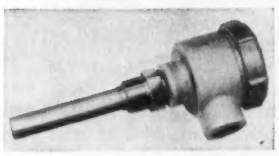
WELDING GUN
spot welds sheet from one side



Weighing less than 2 lb, the Bren Weld Model G arc-spot welding gun will spot weld sheet metal from one side without a back-up electrode. Gun has time control for automatic welding cycle. It will weld galvanized as well as mild steel and is suitable for duct work, auto body repair, and other types of sheet metal work. Made by **Brennen, Bucci & Weber, Inc.**, 262 Mott St., New York 12, N. Y.

▲ For more details circle NED-120 C9 on enclosed inquiry slip ▲

THERMOSTAT
of explosionproof construction



Explosionproof No. 80016-4 thermostat is designed for immersion in tanks, wall installation, and for exposure to contaminated environments. It consists of a Series 47000 Thermo-switch unit, stainless steel well, and an explosionproof junction box. The thermostat is adjustable over a 32 to 500° F range, and can be exposed indefinitely to 100° F, or to 100° F above its set point for short periods. Current rating is 10 amp, 115 v ac or 5 amp, 230 v ac. Made by **Fenwal Inc.**, Pleasant Street, Ashland, Mass.

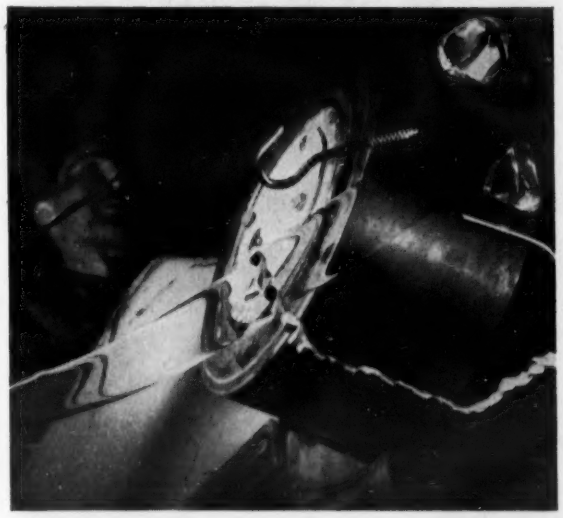
▲ For more details circle NED-121 C9 on enclosed inquiry slip ▲

Hamilton
SUPER SENSITIVE DRILLING MACHINES

THE HAMILTON TOOL COMPANY
901 HANOVER STREET · HAMILTON · OHIO

▲ For more details circle NED-122 C9 on enclosed inquiry slip ▲

HERE'S
NEOTHANE



***solid* answer to your most demanding haulage problems**

TAKE A GOOD LOOK—for this Goodyear "solid" is an entirely new kind of tire. Called *Neothane*, it surpasses every known measure of industrial tire performance.

ITEM: it lasts as much as *four times* longer than conventional solid tires.

ITEM: it carries *two to four times* the load capacity of standard solids.

ITEM: it offers super resistance to broken glass, metal chips, sharp stones and other hazards which cause ordinary tires to fail.

ITEM: for all its toughness, it offers remarkable cushioning—"gives" with surface contours—won't mark even finely finished floors—saves plant maintenance and cargo damage.

These Xtra-Service, Xtra-Capacity advantages are yours only with *Neothane*—the new Goodyear polyurethane that wears like iron, but has the quiet resilience of rubber.

FOR MORE INFORMATION on this amazing new tire—*and how it can save for you*—write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

INDUSTRIAL TIRES BY
GOODYEAR

More tons are hauled on Goodyear Truck Tires than on any other kind
Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

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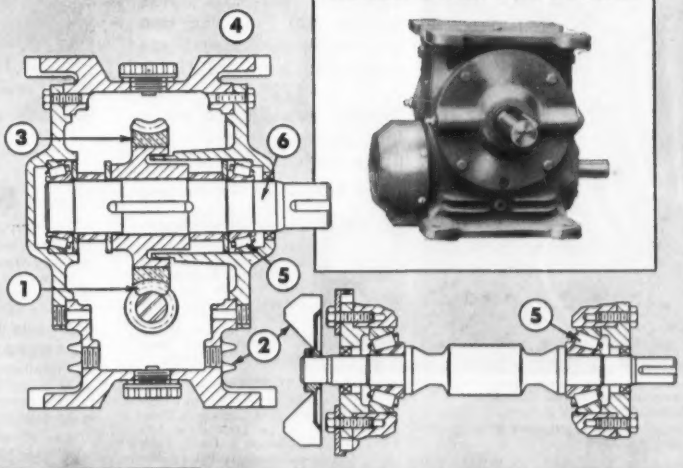
VERSO WORM GEAR SPEED REDUCERS

a new standard in worm gear design

Make this Value Analysis Now!

1. Involute helicoid thread form has highest load capacity of any type of worm gear.
2. Fan cooling and ribbed construction give maximum effect of heat dissipation.
3. Centrifugally cast bronze dished gear—dry well construction.
4. Unit may be mounted in any position. Alternate mounting surfaces.
5. Tapered roller bearings used throughout—provide maximum load capacity.
6. Heat treated alloy steel gear shaft with bearing and sealing diameters provide a strength of 185% of an untreated shaft of the same diameter.



Send for Catalog 5018

DE LAVAL *Steam Turbine Company*
907 Nottingham Way, Trenton 2, New Jersey

DL444A

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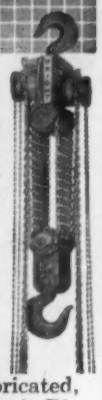
WRIGHT SAFEWAYS

Your Best Buy for Rigging and Maintenance Work



12 Sizes
½-ton to 50 tons

Bulletin 412A gives complete details on the many outstanding features that make Wright Safeways your best buy for long, trouble-free life. Write York, Pa. for your copy.

Some Safeway Features

Load Chain is finest alloy, every foot proof-tested...heat treated for hard wear-resistant working surface...ductile to withstand shock loads..."wick" lubricated...anti-rust zinc coat.

Load and Idler Sheaves rotate on life-lubricated, antifriction bearings...minimum of 5 pockets in Big Sheaves for efficiency and long life.

Gears, Pinions, Drive Spindle (also top and bottom Hooks) are nickel-chrome-molybdenum alloy steel mounted on heavy-duty, antifriction bearings. *Gear Train* is enclosed in oil-tight chamber.

Load Brake is Weston type, silent, dependable.

Steel Housing fully protects vulnerable parts.

Wright Hoist Division
AMERICAN CHAIN & CABLE
ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

▲ For more details circle NED-124 C9 on enclosed inquiry slip ▲

HEATED FITTINGS *to Convey and Dispense* MELTED COMPOUNDS

Sta-Warm offers these electrical heated and thermostatically controlled accessories to carry your heated compounds from melting tank to point of application. Suitable for pitch, asphalt, wax, oil, potting compounds, lacquer and similar industrial compounds which must be maintained at constant heat to avoid freezing in processing.

heated VALVES

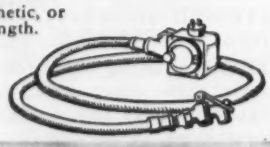
Gate, molasses and other types of valves you require. Local thermostat control.

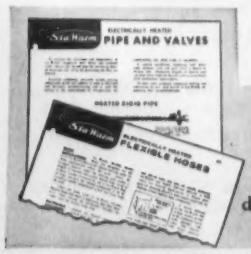
heated PIPE

Offered in various diameters and unit lengths up to 20'. Each length separately thermostatically controlled.

heated HOSE

Flexible steel, bronze, synthetic, or Teflon lined, heated full length.





two NEW BULLETINS

describing Sta-Warm Heated Fittings, available now.

These accessories, designed to fit the wide variety of efficient Sta-Warm compound melting tanks and kettles, also may be readily adapted to your own production set up in order to increase the useful dispensing area around your present compound melting equipment.

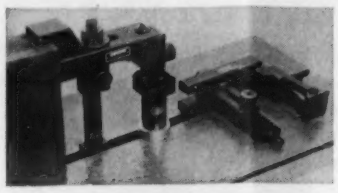
Inquire today for delivery and prices, outlining your problem in detail so complete information can be supplied by return mail.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

▲ For more details circle NED-125 C9 on enclosed inquiry slip ▲

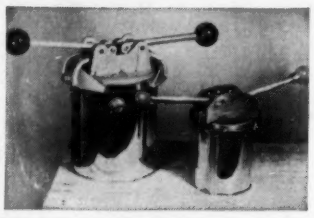
CLAMPING SYSTEM
starter set offered for trial use



All the parts needed to make up a clamp for any height range from ⅜ to 11 in. are contained in this Starter Set. Set includes U-clamps in two adjustable ranges, extensions, and a gooseneck adapter. Both the bolt and the heel-block assemblies are adjustable. With the T-nut on the bolt, clamp can be used on slotted tables, or is otherwise screwed directly into bolsters. Adjustment is by means of slot-and-shoulder arrangement which allows serrations to be disengaged with a quarter-turn of knurled knob. Clamps are also offered in complete sets in sizes to meet normal milling and boring machine needs. Made by **Hi-Lo Products Co.**, 8817 Lyndon Ave., Detroit 38, Mich.

▲ For more details circle NED-126 C9 on enclosed inquiry slip ▲

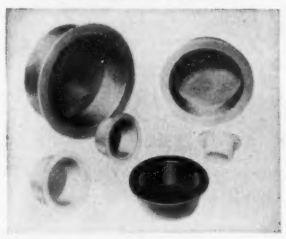
CAN CLOSING TOOL
for friction top containers



Quart and gallon sizes of double-tight friction top containers are easily and quickly closed with this can closing tool. Safe to use, it will not damage containers and allows tight reclosing. Closing is by applying downward pressure on the two handles. Quart size closer sells for $22.50 and gallon size for $29. Available from **Gardner Laboratory, Inc.**, Box 5728, Bethesda 14, Md.

▲ For more details circle NED-127 C9 on enclosed inquiry slip ▲

PLASTIC PLUGS & SEALS
color coded in ⅛ to 1-in. sizes



To simplify inventory and stock room operations, these polyethylene protective plugs are color coded. Size markings are also molded into bottom of each plug. Available in ⅛ to 1-in. sizes for all standard internal pipe threads, plugs can be used to protect bored, ground, plated, or painted internal surfaces; to seal valve seats, tubes, and tube fittings temporarily; seal-in oil, grease, and rustproofing compounds for shipping; and mask surfaces during finishing operations. Plugs are tapered on the outside wall to match pipe thread surface. Inside wall is vertical. Made by **Protector Products, Inc.**, 2144 W. 15th St., Cleveland 13, Ohio.

▲ For more details circle NED-128 C9 on enclosed inquiry slip ▲

"ONLY 20 SECONDS* HOLE and ALL...

is all it takes to ANCHOR into BRICK or CONCRETE with DHD® Hammer Drive Anchors. They are SAFE, fast and secure. The smallest size holds 500 to 700 lbs. For use indoors or outdoors. Sizes available from *3/16" x 7/8" to 1/2" x 3-1/2". Would you like to try a few samples, free? Just fill in the coupon below."

JOHN A. WRIGHT Vice President

WHERE TO BUY DHD® ONLY thru your wholesaler, whose stocks of all Diamond Anchors enable you to get fast delivery service. This policy plays an important part in your ability to get contracts done faster and profitably.

Diamond Expansion Bolt Co.
Garwood, N. J., U.S.A.
Please send me samples of your DHD Hammer Drive Anchors
Name
Concern
Street
City State

BRANCHES:
Atlanta • Boston • Chicago • Dallas • Denver • Detroit • Los Angeles • New York • Philadelphia • Pittsburgh • San Francisco • Seattle • St. Louis • Washington, D. C. • Montreal • Vancouver • Canada.

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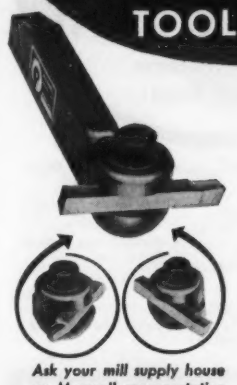
Cut TOOL HOLDER COSTS Drastically with MAXWELL

Universal—Positioning TOOL HOLDER

AA-9258



- Holds any square or round tool bit or boring bar (carbide tip or high-speed steel) 3/16 to ½" in any horizontal position in a complete circle.
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- Rotating clamping cap and forged shank hold tool in perfect grip, no chatter when cutting.
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493 East 5th Avenue • Ashtabula, Ohio

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REVERSIBLE PLUG GAGES by DUNDICK

COMPLETE SIZE RANGE
251 sizes . . .750" to 1.000" dia in increments of .001"
HIGHEST PRECISION QUALITY
Finest Swedish-type tool steel heat treated 63-65 Rockwell "C" and stabilized. Guaranteed precision lapped tolerance plus or minus seventy millionths (.00007").
FREE STEEL CABINETS
Sturdy, rustproof protection. Included free with complete or sectional sets . . .
each Member REVERSIBLE
2 gauges for the price of one!

SENSATIONAL LOW PRICE $2.75 PER MEMBER IN ASSTD. LOTS OF FOUR OR MORE

ORDER NOW FOR PROMPT DELIVERY . . . OR WRITE FOR ADDITIONAL INFORMATION

DISTRIBUTORS: A few desirable territories still open . . .

DUNDICK TOOL WORKS, INC.
"The Precision Gage for the Atom Age"
3410 West 31st Street • Chicago 23, Ill.

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How to Install Machines WITHOUT WRENCH, DRILL OR BOLTS

with **Red Line UNISORB**

Whether installing one machine or a whole plant, users report that Unisorb Pads make the job go "slick as a whistle." Here's why:

- Pads are cut to size, buttered with Unisorb Cement, spotted under legs and machine set immediately in place.
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- No hole drilling, bolt alignment or pock-marked floors.

RESULTS...

- Installation costs and time are drastically reduced.
- Absorbs up to 85% of transmitted vibration. Cuts noise, reduces maintenance and improves working conditions.
- Machines can be quickly and easily moved at any time.

Ask about Unisorb Mounting Pads with engineered density and thickness for every type machine. Send for special trial offer, NOW.

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Division of The FELTERS Company
224 South St. Boston 11 Mass.
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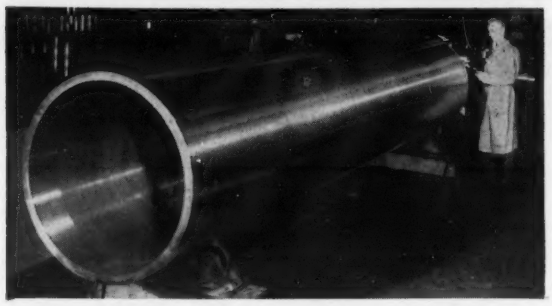

You'll find them better for pressure if they're

SHENANGO CENTRIFUGAL CASTINGS

WHATEVER the inside or outside pressures, Shenango centrifugal castings withstand them better.

Parts cast by the Shenango centrifugal process are much tougher because their finer, *pressure-dense* grain avoids stress concentrations while providing greater strength, better elongation and freedom from such costly defects as sand inclusions, blowholes and such.

Whether you need rings, rolls, sleeves, liners, bushings, bearings, mandrels or *any* annular or symmetrical part . . . ferrous or non-ferrous . . . in whatever shape, size or dimension . . . Shenango can do the job *better!*

For informative bulletins, it will pay you to write now to: *Centrifugally Cast Products Division*, The Shenango Furnace Company, Dover, Ohio.

SHENANGO CENTRIFUGAL CASTINGS

COPPER, TIN, LEAD, ZINC BRONZES • ALUMINUM AND MANGANESE BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL • ALLOY IRONS

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GREEN *Pantograph Engravers*

ELIMINATE DELAYS!

Keep the work in your own plant.

PORTABLE 40-POUND BENCH-MODEL 106

Famous 2 or 3-dimensional engraver, successfully used by thousands, features 5 positive, accurate pantograph ratios. Versatile ball bearing spindle has three speeds up to 14,000 rpm; height of pantograph and position of cutter are continuously adjustable; one copy carrier (supplied) accepts all standard master type sizes.

The Model 106 has proven incomparable for speed and accuracy . . . yet reasonably priced.

Cutter grinders, rotary tables, master letters, compound slides, name plates and all required accessories. For complete information, write to

MODEL D2 HEAVY-DUTY 2-DIMENSIONAL

- 575 pounds — rigid, sturdy, precise
- Vertical adjustment of copy table automatic with Pantograph
- Unobstructed on three sides to take large work
- Micrometer adjustment for depth of cut
- Ball-bearing construction throughout — super-precision ball bearing spindle
- Spindle speeds up to 26,000 rpm for engraving or machining modern materials
- Ratios 2 to 1 to infinity — master copy area 26" x 10"
- Vertical range over 10"

GREEN INSTRUMENT COMPANY, INC.

375 PUTNAM AVENUE, CAMBRIDGE 39, MASS.

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Here's How the Variac

MOTOR-SPEED CONTROL is better for D-C MOTORS from A-C LINES

- ★ Rated Torque at any motor speed from rated to stalling
- ★ NO torque pulsations
- ★ Practically instantaneous Start-Stop-Reverse with ONE switch
- ★ No warm-up required — no electron tubes — extra-long life
- ★ S-m-o-o-t-h, almost stepless speed variation
- ★ Dynamic braking on most models
- ★ Installation simple — low maintenance — low first cost
- ★ Fifteen models from 1/15th hp to 1-1/2 hp. Illustrated is Type 1701-AK for 1/15th hp dc motors: $85.00

Write for VARIAC MOTOR SPEED BULLETIN

GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Massachusetts, U. S. A.

Broad Avenue at Linden, Ridgefield, N. J. **NEW YORK AREA** 1000 N. Seward St. **LOS ANGELES 38**
8055 13th St. Silver Spring, Md. **WASHINGTON, D. C.** 1150 York Road, Abington, Pa. **PHILADELPHIA**
1182 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO** 6605 W. North Ave., Oak Park, Ill. **CHICAGO**
In **CANADA:** 99 Floral Parkway, **TORONTO 15**

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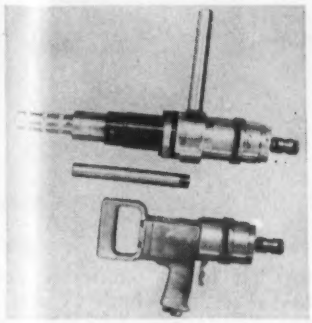
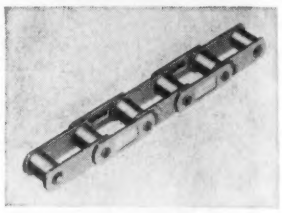
TUBE EXPANDER DRIVES
two models are air operated



Rolling action in two models of air-operated tube expander drives is controlled by a powerful permanent magnet set that disengages and stops the rolling instantly when a preset torque level is reached. Explosion-proof motors run forward when the trigger is squeezed and in reverse when the trigger is released. Standard model has a 1000-rpm speed and pistol squeeze trigger, weighs 10 lb, is 10¼ in. long, and handles most expanding jobs. Heavy duty, higher torque model is controlled by a valve handle, is 19¼ in. long, weighs 12½ lb. Expanders are available for ¼ to 3 in. tubes. Made by **Elliott Co.**, Lagonda Plant, Springfield, Ohio.

▲ For more details circle **NED-136 C9** on enclosed inquiry slip ▲

ROLLER CHAIN
embossed side plates protect rivets



Straight side-bar, conveyor-type roller chain is now made with connecting side plates stamped with embossed surfaces to protect rivet heads. Embossing prevents excessive rivet-head wear from walls in narrow troughs or where chains slide on their sides. Chain life in abrasive applications is considerably increased. Made by **Chain Belt Co.**, Agricultural Chain Div., Dolton, Ill.

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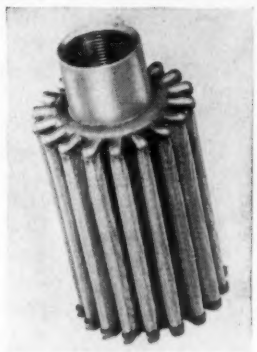
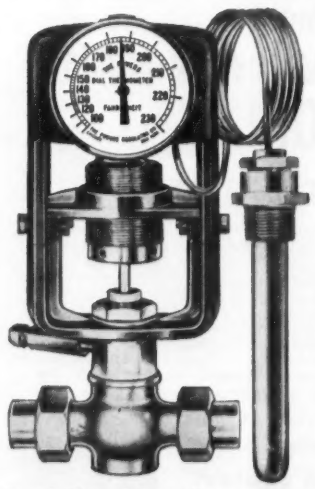
HYDRAULIC SUMP FILTER
impervious to all synthetic oils



Eight standard sizes with capacities from 5 to 100 gpm are available in this sump filter for hydraulic equipment. Its molded end seals, made from a plastic impervious to all synthetic oils, make possible operation up to 300° F. One-piece construction offers protection against passage of dirt, sludge, rust, and abrasive particles which can cause pump failures. The radial fin cartridge of Monel metal is available in 60 or 100 mesh. Made by **Dollinger Corp.**, 11 Centre Park, Rochester 3, N. Y.

▲ For more details circle **NED-138 C9** on enclosed inquiry slip ▲

Hold That TEMPERATURE



Controls Flow of Steam, Water or Gas

at the *Right* point with a

POWERS No. 11 Self-Operating **INDICATING REGULATOR**

Simplest, Reliable Control made for processes, water heaters, heat exchangers, air compressors, etc.

BETTER CONTROL FEATURES

This versatile control has a big easy to read 4" dial thermometer. It accurately shows temperature at bulb. Better temperature control and less maintenance result from powerful bellows and minimum valve stem friction. Powers 590 — Long-Life Valve Packing and Valve Stem Lubricator with silicone grease aid easy movement of highly polished stainless steel valve stem. (c38r)

Write for Bulletin 329.

THE POWERS REGULATOR CO.
Dept. 359, Skokie 44, Ill.

Over 65 Years of Automatic Temperature and Humidity Control

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NOW

More stamina, more versatile performance than ever before!

PORTELVATOR ®

The Handy HAMILTON Portable, Elevating Table

NEW NEW convenience in maneuvering! Six wheel models roll easier . . . turn shorter.
provision for increasing table area!

NEW NEW provision for raising and lowering overhanging loads!
overhanging conveyor tops!

NEW FREE LITERATURE illustrates and describes all! Write for Bulletin P-5606. Address, The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

5606 IT'S A Hamilton Tool — USE IT WITH CONFIDENCE

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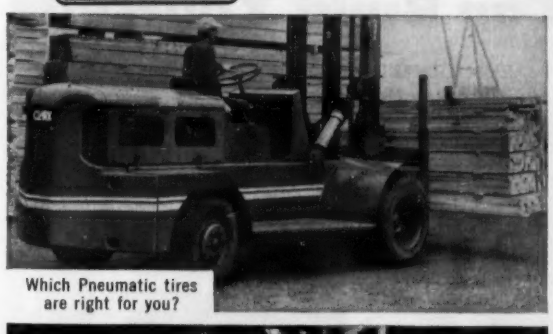
B.F.Goodrich



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What kind of Solid tires do you need?

Free B.F.Goodrich TW Analysis tells you which tires are right for your job!

Can save you up to 50% on industrial tire costs!

Do you need a pneumatic or solid industrial tire? What tread design—what tread compound—is best for your materials handling work? The FREE B.F.Goodrich Tire and Wheel Analysis gives you the answers. They're answers that can save you up to 50% on industrial tire costs, up to 20% on maintenance.

Just mail the coupon below. Without cost or obligation, a B.F.Goodrich TW Analysis man will study your hauling surfaces, equipment, loads and other problems. Then he'll recommend the *right* industrial tires for you to use. His recommendations are unbiased, because B.F.Goodrich makes a complete line of industrial tires.

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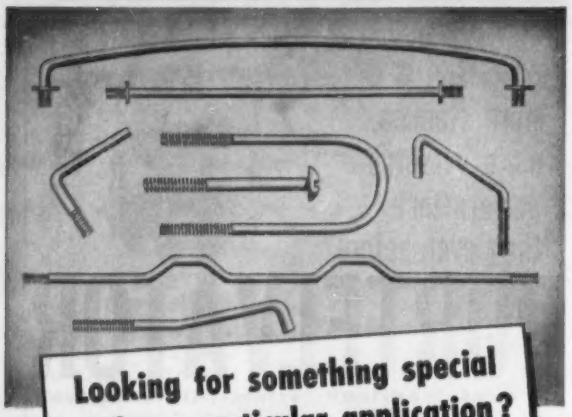

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...rely on Ohio Rod Products for—

SERVICE—QUALITY—UNIFORMITY

OHIO ROD makes Special Headed and/or Threaded Fasteners in short and long length — in short or long runs. Headed, Threaded, Collared, Bent, or Offset.

Send drawings or blueprints for quotes and literature.

OHIO ROD PRODUCTS CO., INC.

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For more details circle NED-142 C9 on enclosed inquiry slip

A Stockroom You Can Build Yourself!

SECTIONAL STACKBINS® give you the greatest flexibility and ease of installation ever devised for parts, tools, materials storage containers. You can set them up in minutes without tools! By combining bin sizes and number and size of openings, you get a storage system tailored to fit your particular needs. SECTIONAL STACKBINS give you maximum storage utility in minimum space. Available in 6 interstacking sizes.

For full information and prices, WRITE TODAY!

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Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM *"Stacked and Still Accessible"*

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NAMES IN THE NEWS!

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Missile Development Centers are among the largest Government Defense users of Produc-Trol for research, production, manpower and other types of scheduling.

PRODUC-TROL Visual Control

not only schedules, But automatically checks with TIME, LINE and COLOR control

- Original cost and upkeep low.
- Schedules and time checks operations.
- Historical record to back it up.
- Bad situations show automatically.
- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

Creator of Effective Tools for Effective Management

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Westport, Conn.

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NAME ..... COMPANY .....

ADDRESS .....

CITY ..... STATE .....

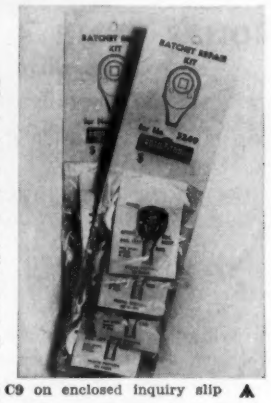
For more details circle NED-144 C9 on enclosed inquiry slip

BELT CONVEYOR for horizontal or incline use

Rubber cushioned stabilizer holds the Streamliner Jr. portable belt booster in position once it has been placed. The conveyor is easily rolled into position for horizontal or up to 30-degree incline use. It has a removable front row roller or wheel feeder section. Both 11 and 13-ft long models have 12-in. wide, three-ply belts that travel at 45 fpm for handling all types of packages and products. Booster has a 120-lb distributed load capacity at 30-degree incline with a 1/4-hp motor. A start-stop switch is at the drive end. Made by **Harry J. Ferguson Co.**, West Avenue, Jenkintown, Pa.

For more details circle NED-145 C9 on enclosed inquiry slip

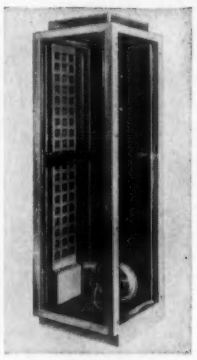
RATCHET TOOL REPAIR KIT for 1/4, 3/8, and 1/2-in. ratchets



Repair kits for renewing Proto 1/4, 3/8, and 1/2-in. reversible ratchet tools contain a wheel plug, two dogs, lever, cam, two springs, cover plate with screws, and directions. Kits are packaged in polyethylene bags, four of a size on an 11 1/2 x 3-in. card. Made by **Proto Tool Co.**, 2209 Santa Fe Ave., Los Angeles 54, Calif.

For more details circle NED-146 C9 on enclosed inquiry slip

STANDARD RACK CABINET holds components and chassis



Formed from 11-gage cold-rolled steel with 16-gage endbells, FT-192 standardized rack cabinet affords stable anchoring points for components and chassis. Units have hinged lift-out doors for accessability to internal components and flush-type hardware. For special uses, cabinets can have a blower system designed so that filtered air enters lower portion of cabinet, circulates and cools components, and is exhausted through a top vent. Removable end panels make possible modular setups of multiple units. Lightweight units can also be made in aluminum and magnesium. Made by **Falstrom Co.**, 301 Falstrom Court, Passaic, N. J.

For more details circle NED-147 C9 on enclosed inquiry slip

Water treatment— a serious engineering problem

FREE BOOKLET

gives practical answers

Scale deposits and slimes can wreak havoc with air-conditioning and refrigeration systems and with boilers and heating systems. It is a condition all maintenance engineers know and fight. But not everyone can tell you how to *cure* water problems. And not all water treatment chemicals can combat the conditions successfully. "Virginia" can do both. Our chemicals are economical, easy to use—and sold by wholesalers everywhere. A letter, wire, or phone call can bring a "Virginia" man—skilled in every phase of water treatment—to you with the right answers.

VIRGINIA SMELTING COMPANY

135 Jefferson St., West Norfolk, Va.

☐ Send me a copy of your free booklet, "Water Cooling Problems—How to Correct Them"

☐ Send a "Virginia" field man around to see me

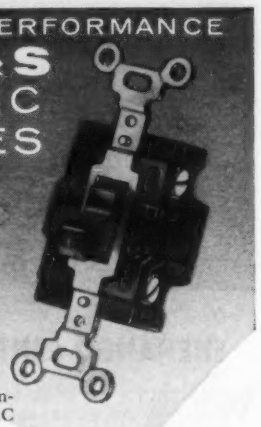
Name _____ Title _____

Company _____

Address _____

For more details circle NED-148 C9 on enclosed inquiry slip

FOR SUPER PERFORMANCE GET P&S SUPER AC SWITCHES



For Extra Long Life
at Full Rated Load
Maximum Service
Quiet Operation

Finest materials and rugged construction make P&S Super AC Switches ideal for heavy duty usage. They can be easily installed in any position and are adaptable for back and side wiring. Underwriters' Laboratories, Inc., approved to full current rating on fluorescent (inductive) and incandescent lighting loads and on motors to 80% of switch rating.

P&S Super AC Switches are totally enclosed; have large silver alloy contacts that prevent overheating; single pole, double pole, 3-way and 4-way . . . 15 and 20 Amps., 120V and 277V AC, and many other features.

Write for complete information to Dept. NED-359.

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In Canada: Renfrew Electric Limited, Renfrew, Ontario

MAKE THE COMPLETE JOB COMPLETELY P&S

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WE CAN BUILD THE PRESS YOU NEED

We specialize in the construction of hydraulic presses, either bench or floor, for every purpose in the fields of rubber and plastic moulding, laboratory testing and graphic arts. Write for circular.

Complete line of Standard Presses: will modify to suit your need.

P·H·I PRESS

PASADENA HYDRAULICS INC.

1434 Lidcombe, El Monte, California

For more details circle NED-150 C9 on enclosed inquiry slip

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GRIP-TREAD MASTIPAVE

Traction surface prevents falls, accidents! Takes brutal beating for years without showing a sign of wear! Deadens noise, insulates. Stays clean with less care, less cost. Lay low-cost Grip-Tread Mastipave in rolls anywhere without surface preparation. Get all the facts!

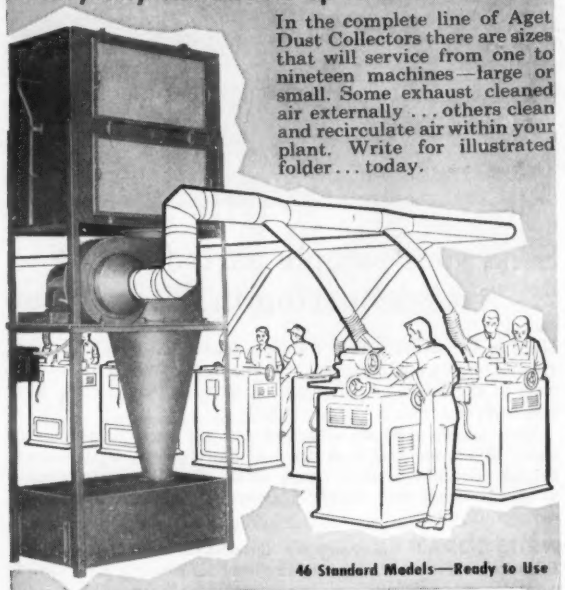
FREE ILLUSTRATED BOOKLET!

Send for "Every Building Needs Pabco Mastipave." Case histories, technical data. Pabco Mastipave, Fibreboard Paper Products Corp., 475 Brannan St., San Francisco

For more details circle NED-151 C9 on enclosed inquiry slip

just ONE DUSTKOP STOPS DUST
heavy duty unit services up to 19 MACHINES

In the complete line of Aget Dust Collectors there are sizes that will service from one to nineteen machines—large or small. Some exhaust cleaned air externally . . . others clean and recirculate air within your plant. Write for illustrated folder . . . today.

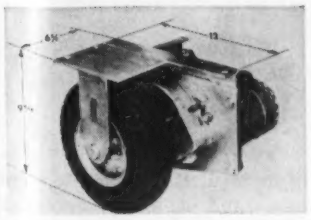


46 Standard Models—Ready to Use

AGET manufacturing company
1396 Church Street • Adrian, Michigan

For more details circle NED-152 C9 on enclosed inquiry slip

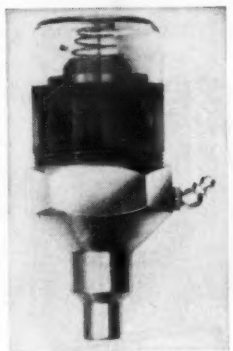
POWER DRIVE CASTERS
handle 1000 to 1600-lb loads



Vehicle loads in the 1000 to 1600 lb range, too heavy for a single man to move, are handled by the Electromite M2 powered caster. Installed to replace either one or both rigid casters on existing stock trucks, hydraulic lifters, hand trucks, and other loading equipment, unit is powered by a quickly rechargeable battery and is geared for riding or walking speeds. Power wheels are offered in an 8-in. rubber-tired size and 10 and 12-in. pneumatic-tired sizes. Made by **Swartzbaugh Mfg. Co.**, Murfreesboro, Tenn.

For more details circle NED-155 C9 on enclosed inquiry slip

AUTOMATIC GREASE CUPS
for plain or antifriction bearings



Automatic self-feeding lubrication of plain or antifriction bearings is possible with Lubrimatic grease cups. They have a 4-oz lubricant reservoir of clear plastic for easy viewing of grease supply. Spring and weighted plunger feed grease to bearing with predetermined pressure. Units also have a protective valve that seats when cup is full, a down-pressure grease gun fitting for filling, and internal 1/8-in. pipe threads in housing for mounting on pipe or extension. Made by **Lubriquipment Engineers, Inc.**, Box 9194, Ft. Worth 7, Tex.

For more details circle NED-156 C9 on enclosed inquiry slip

FORK LIFT TRUCKS
"free lift" telescopic models

Thirty-five models in redesigned line of E-Z Lift trucks include a "free lift" telescopic fork lift. It raises to a height of 70 in. before the telescopic mast extends above the chassis. Model BT with the "free lift" feature can stack in low ceiling areas, yet is capable of lifting loads up to 130 in. Capacity is 1500 lb. Made by **Crown Controls Co.**, 40-44 S. Washington St., New Bremen, Ohio.

For more details circle NED-157 C9 on enclosed inquiry slip

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings
★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

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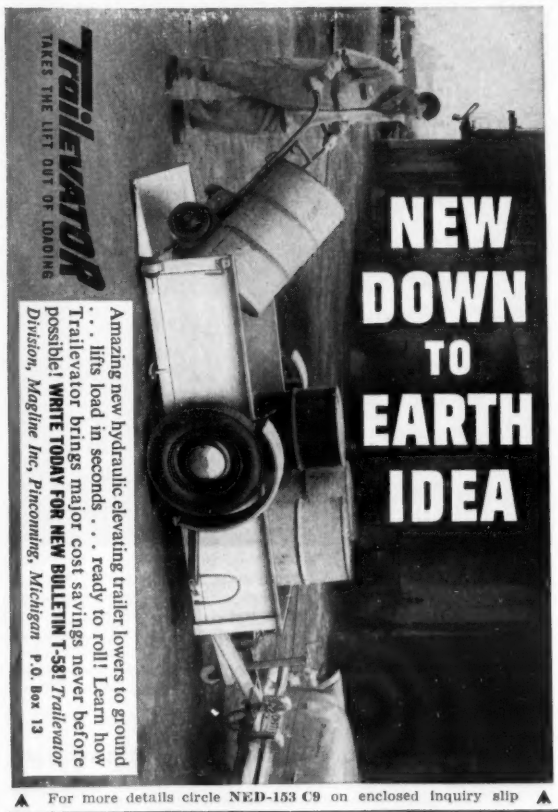
192 MILL STREET
ROCHESTER 14, N. Y.

For more details circle NED-159 C9 on enclosed inquiry slip

Trailevator TAKES THE LIFT OUT OF LOADING



NEW DOWN TO EARTH IDEA

Amazing new hydraulic elevating trailer lowers to ground . . . lifts load in seconds . . . ready to roll! Learn how Trailevator brings major cost savings never before possible! WRITE TODAY FOR NEW BULLETIN T-58! *Trailevator Division, Magline Inc, Pinconning, Michigan* P.O. Box 13

For more details circle NED-153 C9 on enclosed inquiry slip

Quick Disconnects for Air—Fluids—Gases

These Series "D" Quick Couplings are interchangeable with all popular makes. They are ideal for fluid or gas applications up to 10,000 p.s.i. for Compressed air lines, Pneumatic tools, Industrial fluids, Instrumentation, Materials handling.

Features
- Small and Compact Greater flow, positive seal
- Quick Automatic Locking Just "plug in". No turning or twisting
- One Hand Operation Fast and easy. Saves time
- Full 360° Swivel Prevents kinking or twisting of hose
- Integral Check Valve Connect or disconnect under pressure
- Brass Sockets Cadmium plated steel plugs
- Pipe Sizes 1/8" through 3/4"

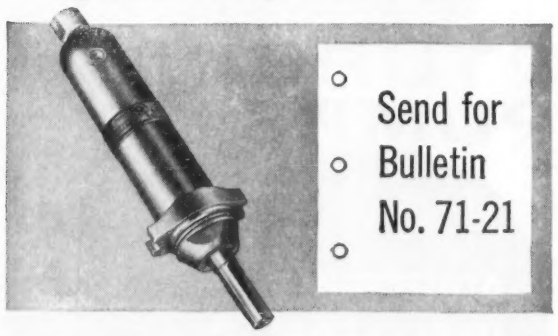
Write for Bulletin #1500

"WHERE Good Connections COUNT"®

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, N. C.
Baltimore—Buffalo—Camden, N. J.—Chicago
Cleveland—Los Angeles — New York—Providence
Hamilton, Ont.—Montreal—Toronto

For more details circle NED-160 C9 on enclosed inquiry slip

New rotary air motor packs 1/8 h.p. in 1 1/8" dia.



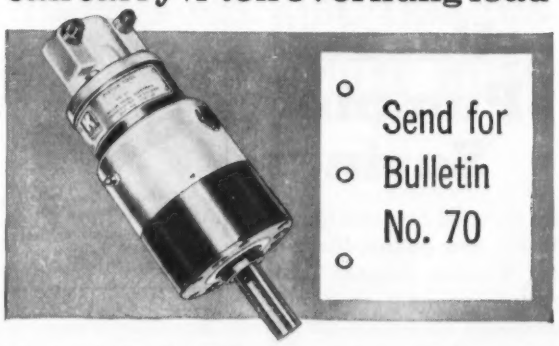
Send for Bulletin No. 71-21

New, compact fractional h.p. motor developed by Gardner-Denver engineers for close quarters and portable applications. Weighs less than a pound. Stall torque up to 36 in.-lb. Measures 7 1/8" long x 1 3/4" at the mounting lugs. Three basic speeds of 20,000, 5000 and 1000 r.p.m. Variable speed-torque control. Plus the basic air motor advantages: positive, instantaneous control . . . continuous operation . . . no spark hazard . . . can't burn out.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario
GARDNER-DENVER

For more details circle NED-154 C9 on enclosed inquiry slip

This axial-piston air motor can carry 1/2-ton overhung load



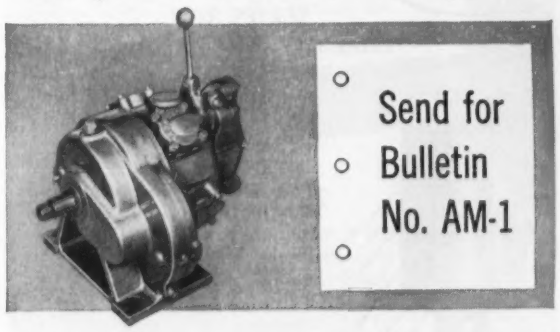
Send for Bulletin No. 70

Stout spindle, tough bearings and rugged case give this air motor the ability to carry an overhung load as great as 1000 lb., with no external spindle support. Gardner-Denver axial-piston design packs 2.7 h.p. in 6 3/16" dia. x 13 3/4". Weighs 38 lb. Speeds to 2600 r.p.m. Starting torque to 82 ft.-lb. Variable speed. Reversible. Nonsparking. Works in heat, moisture or dust. Other sizes from 0.6 to 2.7 h.p.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario
GARDNER-DENVER

For more details circle NED-158 C9 on enclosed inquiry slip

Here's the radial air motor for your "work horse" jobs



Send for Bulletin No. AM-1

Strong tugging action of this powerful air motor starts heavy loads easily . . . accelerates smoothly. Gardner-Denver 5-cylinder radial design means that at least two cylinders are always on power stroke. Smooth, vibrationless power is not dependent on high r.p.m. Six sizes from 2 to 16 h.p. Direct drive or built-in gear reduction. Reversible and non-reversible models.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario
GARDNER-DENVER

For more details circle NED-161 C9 on enclosed inquiry slip

FOR QUICK FOOLPROOF FLUID LINE CONNECTIONS

Here's the coupling for the job

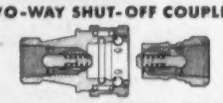
To connect a Hansen Two-Way Shut-Off Coupling, you merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Available in brass or steel with female pipe thread connections from 1/8" to 1" inclusive.

Write for the Hansen Catalog

Here is an always ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen One-Way Shut-Off, Two-Way Shut-Off, and Straight-Through Couplings.

HANSEN SERIES HK®

TWO-WAY SHUT-OFF COUPLING



Instantly shuts off both sides of line . . . prevents loss of liquid, gas or pressure.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle NED-162 C9 on enclosed inquiry slip ▲

NEW AGASTAT®

HAS LONGER OPERATING LIFE

The Agastat time/delay/relay has been completely re-designed, inside and out, to make every moving part last longer and operate more reliably. Here are some other important advantages:

- Dial adjustment for ease and accuracy
- Five timing ranges, covering an overall range of from 0.08 seconds to 15 minutes
- Timed intervals remain the same through repeated readjustments
- Integral wiring diagram and calibration plate
- Measures only 4-9/16 x 2-9/16 x 2-5/8"
- All contacts are flexible contacts
- Contacts are larger for fast heat dissipation

See the Agastat line at Booth 2244 at the I.R.E. Show.

Write for details and application engineering assistance to Dept. A32-35.

AGA DIVISION
Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in Pneumatic Timing

▲ For more details circle NED-163 C9 on enclosed inquiry slip ▲

David Round

Jib Cranes

SERIES 300

PILLAR TYPE - SELF SUPPORTING

HEADS AND WEAR RINGS Available Separately
Write for BULLETIN 225-JC

DAVID ROUND & SON, INC., CLEVELAND 22, OHIO

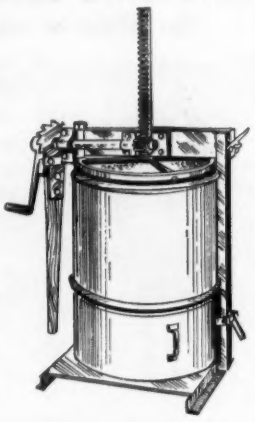
▲ For more details circle NED-164 C9 on enclosed inquiry slip ▲

SAFETY BENCH CAN for cleaning or swabbing operations

Perforated, spring-operated dasher and the baffles of this safety bench can protect its inflammable contents from fire. The dasher is flush with the can top and minimizes evaporation losses and explosive vapors. Suited for cleaning small metal parts or swabbing larger ones in gasoline or other solvents, the coated sheet steel can has a red enamel exterior finish and a hinged lid. Made by **Eagle Mfg. Co.**, 2545 Charles St., Wellsburg, W. Va.

▲ For more details circle NED-165 C9 on enclosed inquiry slip ▲

WASTE PAPER BALER exerts pressure up to 4000 lb

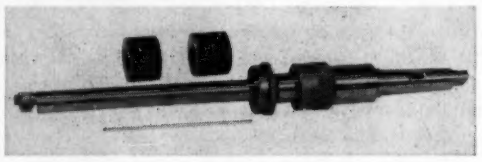


Eight barrels of trash or waste paper can be compressed into one by the E-Z Baler, a circular unit requiring a floor space only 24 in. square. A crank handle with sprocket gears forces the lid down, compressing the paper at the bottom. Pressure up to 4000 lb is obtained with an optional ratchet handle. Front and rear doors at the bottom are opened to expose the bale. Wire is inserted in four slots at top and bottom of the compressed trash for tying it up into bales. Made by **Vernon Tool Co.**, 1101 Meridian Ave., Alhambra, Calif.

▲ For more details circle NED-166 C9 on enclosed inquiry slip ▲

RECESSING TOOL for deep-hole machining

Fully automatic deep-hole recessing can be done accurately and without need for supporting jig with this JS recessing tool. Any number of nose piece



extensions are used to fit the part being machined. It is used in lathes, milling machines, drill presses, and jig borers to cut recesses or machine a multiple of internal forms and is adaptable to a wide range of hole diameters. Feed ratio is 7½ to 1, and the diameter is controlled by stop collars threaded on the body. Made by **Maxwell Industries, Inc.**, 493 E. Fifth St., Ashtabula, Ohio.

▲ For more details circle NED-167 C9 on enclosed inquiry slip ▲

New Vacuum Pumping Savings

NRC Rotary Gas Ballast Pump Model 100M. Other units with capacities from 1¼ to 400 CFM; blank-offs down to 5×10^{-5} mm. Hg.

are reported by users of NRC Rotary Gas Ballast Mechanical Vacuum Pumps. These pumps maintain their original high efficiency even when handling water and other condensable vapors. They have proved in thousands of installations that they save money three ways:

1. **Lower First Cost**—because no oil reclaiming equipment is needed.
2. **Lower Operating Cost**—because cycles are shortened by ability of pumps to maintain top speed throughout cycle after cycle.
3. **Lower Maintenance Cost**—because labor and material costs for frequent oil changes are avoided.

Send today for 16 page Bulletin 29-C.

NRC EQUIPMENT CORPORATION
SUBSIDIARY OF NATIONAL RESEARCH CORPORATION
DEPT. 29, CHARLEMONT ST., NEWTON HIGHLANDS, MASS.

▲ For more details circle NED-168 C9 on enclosed inquiry slip ▲

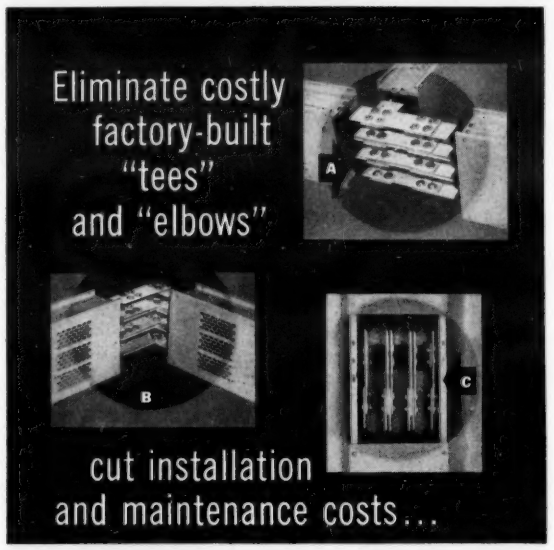
Send your sample parts for free deburring in Almco's Lab

Here in the world's most complete barrel finishing laboratory, your deburring and finishing problems can be studied by ALMCO's team of experts *at no obligation.* ALMCO has helped many firms reduce these costs *by more than 90%.*

Your sample parts are processed with the latest ALMCO Supersheen barrel finishing equipment . . . the identical units you can get for your own plant, large or small. The final ALMCO report to you is factual and complete in every detail. It may mean big savings to you.

WRITE TODAY on company letterhead, asking for Almco Sales Engineer to arrange for sample processing. Or send sample parts along, with specifications on results desired. (If possible include finished part for guide.) Mail to *Harold Mickelson,* Chief Engineer, Almco Test Lab., 233 E. Main St., Queen Products, Inc., Albert Lea, Minnesota. Subsidiary of King-Seeley Corp.

▲ For more details circle NED-169 C9 on enclosed inquiry slip ▲

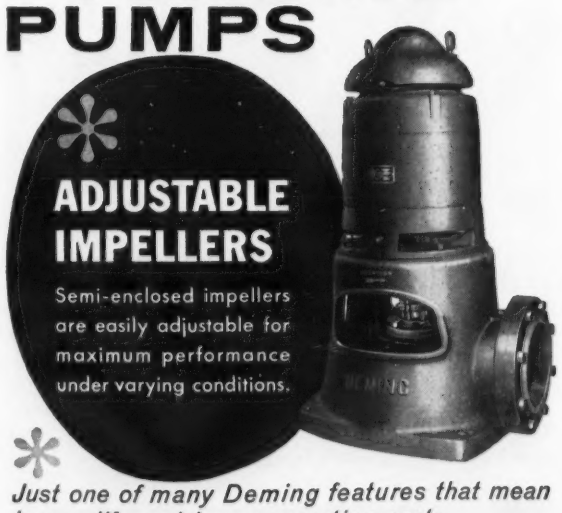


THIS NEW LOW IMPEDANCE BUS DUCT features a unique splicing system... permits "tees" and "elbows" to be built on the job using standard bus duct sections...without the premium cost of special factory-built units. Splicing at "tees" (A), "elbows" (B) and straight section joints (C) reduced by as much as 50%. Result: lower initial costs, less delays, faster installation, less maintenance, higher salvage value. Available in Feeder and Plug-in types. Write for Bulletin 3-125: Federal Pacific Electric Company, General Offices: Dept. 335, Newark 1, New Jersey.

FPE FEDERAL PACIFIC ELECTRIC COMPANY
The Best in Electrical Distribution and Control Equipment

▲ For more details circle NED-170 C9 on enclosed inquiry slip ▲

DEMING VERTICAL TURBINE PUMPS



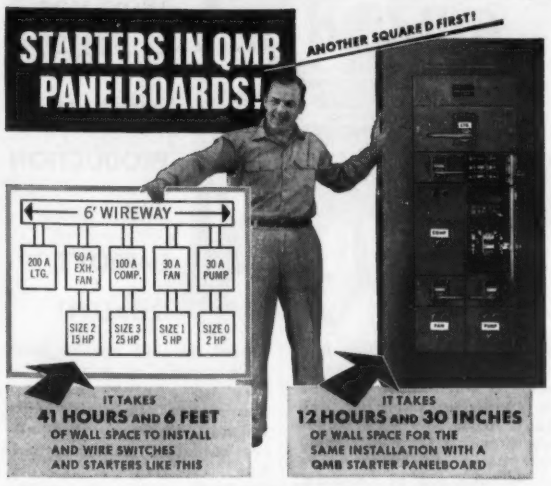
ADJUSTABLE IMPELLERS

Semi-enclosed impellers are easily adjustable for maximum performance under varying conditions.

Just one of many Deming features that mean longer life and lower operating costs

The DEMING Co.
306 BROADWAY • SALEM, OHIO

▲ For more details circle NED-171 C9 on enclosed inquiry slip ▲



• Why mount separate starters and disconnect switches? It costs extra money. It wastes space. It takes a lot more time. QMB panelboards accommodate reversing and non-reversing starters, sizes 0 through 3. QMB switchboards and unit substations handle sizes 0 through 5. All are available factory-assembled and wired. Or get separate enclosures, starters, and plug-in switch units from your Square D distributor.

Write for Bulletin SD80 to Square D Company, 6060 Rivard Street, Detroit 11, Michigan

NOW... EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

▲ For more details circle NED-172 C9 on enclosed inquiry slip ▲

You'll get the job done faster at less cost with Skinner metalworking products

POWER CHUCK

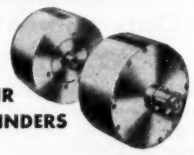
Positive gripping power. Accuracy within .001" on diameter on repetitive work. Types: lightweight self-centering, combination, serrated jaw, compensating. Sizes: 6" to 24" diameter.

TROUGH VISES

Series F and FS. Opening capacity equal to full width of jaws. Tremendous holding power for rough or finished work. Built-in trough returns coolant. Sizes: 4" to 8". Swivel base available.

HAND CHUCKS

Independent, self-centering and combination. Sizes for machines ranging from bench lathes to engine and turret lathes. Types for direct mounting and for use with intermediate adaptor plates.



AIR CYLINDERS

Double-acting, rotating operation. Open or close power chuck jaws almost instantly. Large ports for fast action with minimum air expenditure. Standard sizes: 4½" to 20". Speeds to 3500 rpm.

Available through leading industrial distributors, machine tool builders and dealers everywhere.

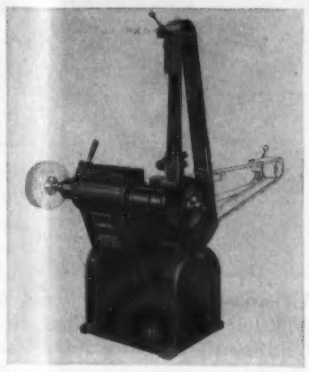
THE CREST OF QUALITY

SKINNERCHUCKS

THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT

▲ For more details circle NED-173 C9 on enclosed inquiry slip ▲

BELT POLISHING HEAD
diversifies polishing lathe work



By mounting this UP-2 belt polishing head on Hammond polishing lathes, contact wheel, free belt, and platen grinding and finishing operations are made feasible. It can be used on one or both sides of lathe for light to medium operations. Spindle speed of 1750 rpm gives 5500 sfpm using a 12-in. diameter contact wheel. It is adjustable to take 52 to 90-in. long abrasive belts from 1 to 2½ in. wide. A belt guard and dust scoop are standard equipment. Made by **Hammond Machinery Builders, Inc.**, 1623 Douglas Ave., Kalamazoo, Mich.

▲ For more details circle NED-175 C9 on enclosed inquiry slip ▲

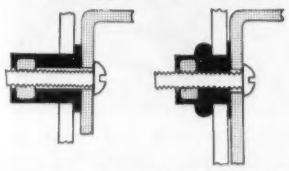
UNIT HEATER CONTROL
mounts on cover of 3-gang wall box

Single enclosure of the Type CUH combination unit heater control includes line voltage thermostat, manual starter with thermal overload protection, summer and winter switch, pilot light for fan, terminal block, and optional low limit aquastat or pressurestat. Equipment is mounted on the removable cover plate of a standard 1⅝ x 8⅛ x 4½-in. three-gang wall box to facilitate installation and wiring. Control may be wall or flush mounted by means of a furnished adaptor. Made by **Sarcotherm Controls, Inc.**, 635 Madison Ave., New York 22, N. Y.

▲ For more details circle NED-176 C9 on enclosed inquiry slip ▲

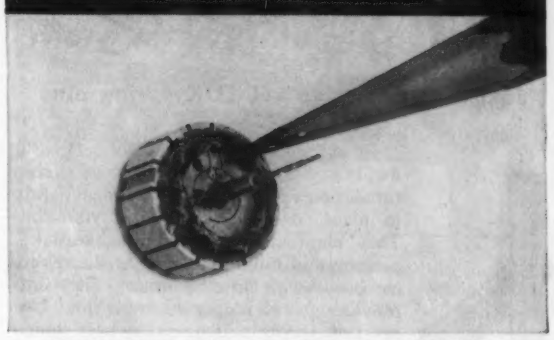
SEALING FASTENER
vibrationproof, air and water tight

Three new sizes of the Well-Nut are available with thicker and wider flanges for appliance, truck, electronic, tubular furniture, and other applications. Fastener is a tough neoprene bushing with a threaded hex brass nut bonded in one end. As torque is applied to a screw, the brass nut draws the neoprene firmly against the back of the material being fastened. The Well-Nut resists vibration and is air and water tight. Drawing at right shows cross section of tightened fastener. Seven sizes are now offered. Made by **Rockwell Products Corp.**, 146 Central Ave., Newark 3, N. J.



▲ For more details circle NED-177 C9 on enclosed inquiry slip ▲

FREE ANALYSIS OF YOUR SMALL METAL PARTS JOINING PROBLEMS



TIME SLASHED FROM 15 MINUTES TO 15 SECONDS!

PROBLEM: ground the copper armature ground wire of a miniature servo motor. The method used was to drill a hole through the armature laminations, drive a brass pin through the hole, then solder the .005" ground wire to the pin. **SOLUTION:** a RAYTHEON WELDING ANALYST recommended a DC welder to weld the wire directly to the steel shaft of the armature. **RESULT:** time reduced to 15 seconds—stronger, more reliable electrical connection.

HOW YOU CAN BENEFIT—
If you have a small metal parts joining problem, see your Raytheon Welding Analyst. Write Dept. NH3 without obligation.

RAYTHEON
Excellence in Electronics

RAYTHEON MANUFACTURING COMPANY
Commercial Equipment Division, Industrial Products Dept., Waltham 54, Mass.

▲ For more details circle NED-178 C9 on enclosed inquiry slip ▲

What's your answer?

"MAKE-OR-BUY" CABLE ASSEMBLIES ...AND WHOSE?

MAKE?
Making your own cable assemblies from wire rope and various fittings involves time and hand labor plus materials. Uniformity and safety factors may be reduced.

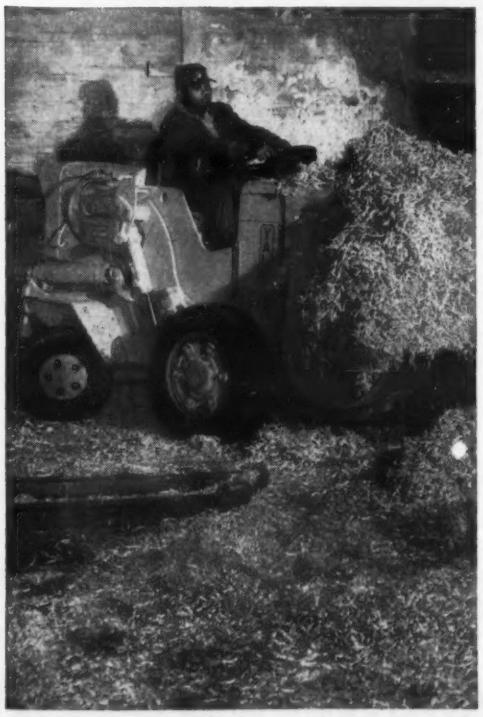
BUY?
When you buy "factory-finished" cable assemblies, you can assign a part number and always be assured of a neat, uniform machine part with maximum safety. Your costs are definitely established by a firm quotation from specialists.

WHOSE?
Today there are many types to meet mechanical control needs. Investigate Hi-Quality Macwhyte "Safe-Lock" cable assemblies — let us quote on your requirements.

138

MACWHYTE Wire Rope COMPANY
2906 Fourteenth Avenue, Kenosha, Wisconsin
WIRE ROPE WITH A PURPOSE... TO SERVE YOU BETTER!

▲ For more details circle NED-179 C9 on enclosed inquiry slip ▲



NEW YALE INDUSTRIAL TRACTOR SHOVEL DOES 25% MORE WORK PER HOUR

HERE ARE THE REASONS WHY:

FULLY AUTOMATIC YALE TORQUE TRANSMISSION—for quicker, smoother starting—no shifting—more power under load conditions.

MOST HORSEPOWER. Means longer engine life—greatest amount of work done in shortest time.

MOST BUCKET TIPBACK—45° at ground level.

HIGHEST DUMPING CLEARANCE—full 6'.

FASTEST ACCELERATION—8 mph in 3.5 secs.—13 mph in 5.5 secs.

FRONT AND REAR OPERATING LIGHTS—standard equipment.

SAFETY-CURVE ARMS—provide more elbow room for operator.

CARRY CAPACITY—full 2500 lbs.

Contact your Yale representative or write for information to The Yale & Towne Manufacturing Co., Yale Materials Handling Div., Philadelphia 15, Pa. Dept. YT-2H.

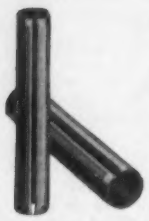
YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS
YALE & TOWNE

GASOLINE, ELECTRIC, DIESEL AND LP-GAS INDUSTRIAL LIFT TRUCKS • WORKSAVERS
WAREHOUSERS • HAND TRUCKS • INDUSTRIAL TRACTOR SHOVELS • HAND, AIR AND ELECTRIC HOISTS

▲ For more details circle NED-174 C9 on enclosed inquiry slip ▲

Cut fastening costs

Just drill and drive SEL-LOK spring pins



Drill an ordinary-tolerance hole. Drive a SEL-LOK. Spring action makes these slotted tubular pins self-locking, keeps them tightly in place, despite impact and vibration. They eliminate costly tapping, reaming, peening and milling, as well as the rejects associated with close tolerances. They simplify design and reduce assembly time. Use SEL-LOK spring pins as axles, keys, hinge pins, cotter pins, pivots or stop pins—in metal assemblies or in products of nylon, Bakelite, hard rubber or fiber. Full range of sizes (1/16 x 3/16 to 1/2 x 5 in.) in carbon and corrosion-resistant steel. Also in beryllium copper (1/16 x 3/16 to 1/4 x 3 1/2 in.). Stocked by industrial distributors. Write for new Bulletin 2331. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co., Inc. • Nutt-Shel Corporation • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

▲ For more details circle NED-180 C9 on enclosed inquiry slip ▲

More powerful than any other paint pump on the market . . . more efficiently designed . . . more sturdily constructed...the new Alemite "P-78" assures faster, more efficient delivery through long lines and numerous outlets! Pumps paint up to high floor levels . . . eliminates movement of equipment and hand transferring . . . speeds production! Check these "P-78" Pump advantages:

High Volume—models deliver from .4 to .65 gallons per cycle. **Maximum System Capacity**—serves 2 miles of pipeline. **Smooth Pumping Action**—handles all finishing materials, including fast settling acrylic lacquers. **Lightweight**—all aluminum body weighs only 76 lbs.

Write For New Alemite "P-78" Pumps Catalog!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

1826 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-181 C9 on enclosed inquiry slip ▲

SOLDERING GUN
has high and low heat control

Dual heat feature of this soldering gun allows instant selection of high or low heat, 90 or 125 w, depending upon need. Efficient tip is copper for maximum heat transfer, but has iron plating for durability. Prefocussed spotlight illuminates work while gun is in use. The UL-approved gun is offered in the Model 8200K kit and sells for $7.95. Made by Weller Electric Corp., 601 Stone's Crossing Rd., Easton, Pa.

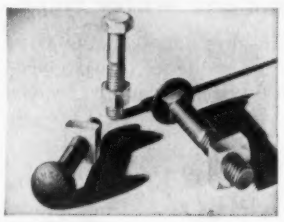
▲ For more details circle NED-182 C9 on enclosed inquiry slip ▲

WIRE DISPENSING UNIT
has four adjustable-size reels

Plastic single - conductor jumper wire used with ringing leads or similar light-wire installations is easily dispensed with the Model DSP-94J reel unit. It has four adjustable 9-in. reels, mounted on a lightweight welded steel frame for portability. Each reel turns independently and is easily loaded with 1000-ft coils of colored No. 22 jumper wire, or similar coil sizes. Reels adjust in width from 1 1/2 to 3 in. and from 4 1/2 to 6 1/2 in. in coil eye-diameter. A carrying handle is included. Unit weighs 17 1/2 lb empty and 30 1/2 lb loaded. Made by Hykon Mfg. Co., Box 923, Alliance, Ohio.

▲ For more details circle NED-183 C9 on enclosed inquiry slip ▲

CARRIAGE & MACHINE BOLTS
hex head offered in over 500 sizes



Added to the Stanscrew fastener line is a complete selection of hex head machine and carriage bolts in a range of over 500 different sizes. The full body, hex head machine bolts are supplied with or without finished hexagon nuts and have minimum tensile strength of 55,000 psi. Diameters range from 1/4 to 1 1/4 in. and lengths from 1 1/2 to 24 in. Carriage bolts range in sizes from No. 10 to 3/4 in. diameter, and in length from 1/2 to 18 in. Made by Standard Screw Co., 2701 Washington Blvd., Bellwood, Ill.

▲ For more details circle NED-184 C9 on enclosed inquiry slip ▲

CONTACT LOCAL GRANET DISTRIBUTOR

SPECIFY *GRANET*
COATED FABRIC WORK GLOVES

Nuisance hand injuries cost you money in so many ways. Cuts to hands and fingers mean higher insurance premiums — loss of production time — increased first aid cost — and poor employee relationships.

Granet Gloves are test-proven to give longer wear and greater protection than ordinary leather, canvas and plastic work gloves. Our **Controlled Glove Program** offers a practical and economical solution to hand injury problems.

Write today for descriptive catalog of all Granet lines. There's one for every industry.

GRANET CORPORATION
25 LORING DRIVE
FRAMINGHAM, MASSACHUSETTS

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WHY NOT CUT COSTS, INCREASE PRODUCTION and IMPROVE QUALITY!

Model 209 CLAIR Pinch-Roll Thru-Feed Surface Finishing machine will handle any and all types of sheet or coil stock up to 40" wide. Takes any thickness from extremely light gauge to heavy plate for all degrees of finishing. Truly an incredibly versatile finishing machine ready to solve almost any problem you might be having with elementary metals, alloys, woods, laminated surfaces, plastics, printed circuitry, etc., etc.

Model No. 209 can be reset in a couple of minutes for any operation such as: coarse stock removal, satin finishes, highly colored mirror surfaces, polishing, buffing, cleaning, delustering, brushing, waxing, etc., or, the equivalent of wide abrasive belt applications with the patented spiral wrap abrasive roll. Rate of pinch roll feed is easily and quickly adjustable.

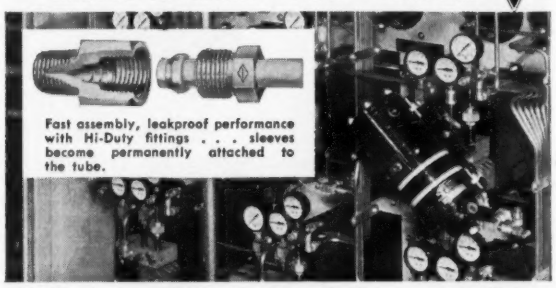
CLAIR MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

▲ For more details circle NED-186 C9 on enclosed inquiry slip ▲

IMPERIAL *Engineering and Data Digest*

ENGINEERED TUBE FITTINGS — VALVES — TUBING TOOLS



Hi-Duty makes leakproof connections for Panellit Control Boards

Fast connections and leakproof performance are top requirements for control boards. That's why Panellit selected Hi-Duty.

Just push tube into fitting and tighten nut to make a Hi-Duty connection. One man can assemble up to 4 Hi-Duty fittings in the time it takes to assemble one flare fitting. Can be disconnected and reconnected repeatedly without leakage . . . take 5 times the vibration of compression or flare fittings.

Write for Bulletin 3002.

SAVE 36% TO 72% JOB TIME

Type of Fitting	Average Time For Each Joint	Joints Per Hour
HI-DUTY	11.7 sec.	307
Regular compression	18.5 sec.	194
Flare	48.2 sec.	74

These studies made under actual shop conditions.

IMPERIAL THE IMPERIAL BRASS MFG. CO. Dept. NED-39 6300 W. Howard St., Chicago 48, Ill. *In Canada:* 18 Hook Ave., Toronto, Ont.

▲ For more details circle NED-187 C9 on enclosed inquiry slip ▲

MOVE MATERIALS THRU BINS HOPPERS CHUTES

with "maintenance-free" Navco One-Piece Vibrators*

Navco Air Vibrators have a patented one-piece design for trouble-free operation. No need to stock spare parts—no assembly bolts, housing springs, separate striking plates, or grooved pistons in Navco Vibrators. Complete line for bins, hoppers, chutes, R. R. Cars, concrete forms, and batching. Now being specified by the country's leading automotive production foundries.

FREE! 26-page Catalog

*Patented Dept. D-3

NAVCO NATIONAL AIR VIBRATOR CO. 2366 W. 7th St. • Cleveland 13, Ohio

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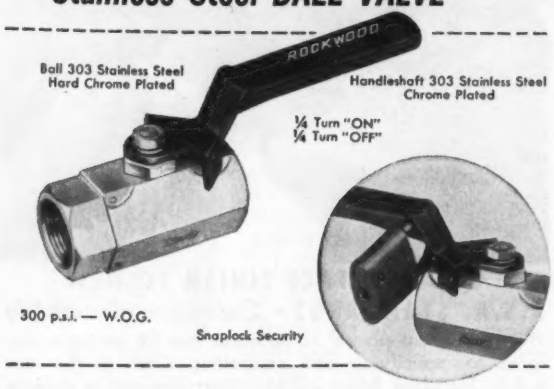
Lock It And Be Sure...

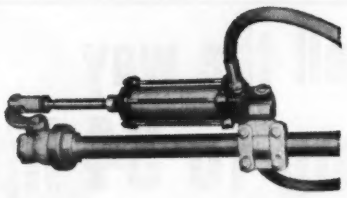
Rockwood Type 901 Stainless Steel BALL VALVE



Once you've locked out *human* error, you can be sure that a Rockwood Type 901 Ball Valve will provide smooth, reliable, leakproof service whether "ON" or "OFF". Meets all 303 Stainless Steel requirements. Gives you all the Rockwood "extras," too, such as low-pressure sealing, in-service stem replacements, and 8-position lever operation. Sizes ¼" to 2". Also available with Teflon seat and Viton "A"-"O" rings. Write for complete specifications.

ROCKWOOD SPRINKLER COMPANY
1189 Harlow Street, Worcester 5, Massachusetts

▲ For more details circle **NED-189 C9** on enclosed inquiry slip ▲



ROCKWOOD AIR-OPERATED BALL VALVES

- *Out of reach*
- *Under perfect control*

No matter how hard their locations are to get at, you can keep Rockwood Full, Round Flow Ball Valves under instant, accurate control.

All of them are available with air operation units, which reach where a man can't, and which can be mounted in four different positions around the valve. One or more efficient, smoothly operating Rockwood Air-Operated Ball Valves can be actuated from a central control board. They're adaptable to a wide range of controls including automation.

A single package contains the complete air-operated assembly — including ball valve, cylinder and mounting brackets. Write for full information. Tested and listed by Underwriters' Laboratories, Inc. Distributors in all principal industrial areas.

ROCKWOOD SPRINKLER COMPANY
1189 Harlow Street, Worcester 5, Mass.

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Rockwood Cold Forged

STEEL UNIONS

NOW, Color-Coded for Positive Identification

Now Rockwood makes identification easy for pipe fitters and warehouse personnel.

Rockwood Unions offer you 4 different seats — for all general piping requirements — approved by Underwriters' Laboratories, Inc. for use in handling flammable liquids. Only Rockwood Unions are 100% inhibited against corrosion. Threads are "Rockwoodized" and seats are made of non-corrosive material and are sold off standard Black Steel price list. All parts are completely interchangeable. Write for full information and take your choice.

Nut-Gray — Type 601 . . . Silicon Bronze Seats . . . Eliminates corrosion, electrolytic action and dezincification of seat joint. Withstands higher temperatures than ordinary bronze or brass. Perfect for chemical, steel, rubber, paper and textile industries!

Nut-Black — Type 602 . . . 2 Stainless Steel Seats . . . Where carbon steel pipe is used and severe temperature or acid conditions are prevalent — eliminates necessity of an all stainless steel union.

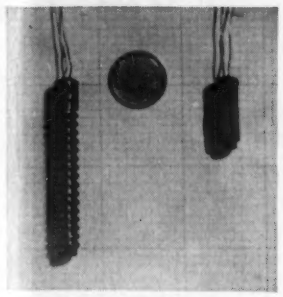
Nut-Olive Drab — Type 603 . . . Moly Steel Seats . . . Offers extra strength, toughness and resistance against corrosion and provides Hardness Differential. The male seat is specially heat treated to give it a greater hardness than the female seat.

Nut-Gray — Type 604 . . . Moly to Silicon Bronze Seats Combines the advantage of types 601 and 603.

ROCKWOOD SPRINKLER COMPANY
2929 Harlow Street, Worcester 5, Mass.
Distributors in all principal industrial areas

▲ For more details circle **NED-191 C9** on enclosed inquiry slip ▲

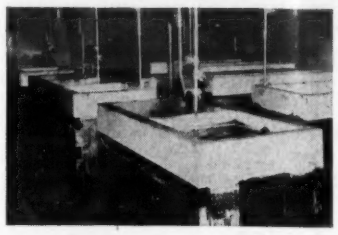
TINY BELLOWS MOTOR is explosive powered device



Positive displacement for the performance of mechanical work is provided by this 0.32-in. diameter by 1-in. long, squib-actuated, bellows motor. Actuated by as little as 100 ergs at 1.5 v or 0.3 amp, it provides a 10-lb thrust over a 1-in. minimum stroke within 1 millisecond. Thrust can be guided around a 90-degree curve. Units operate over temperatures of −65 to 165° F and withstand 20,000-g shock and acceleration. Made by **Atlas Powder Co.**, Ordnance Materiel Dept., Wilmington 99, Del.

▲ For more details circle **NED-192 C9** on enclosed inquiry slip ▲

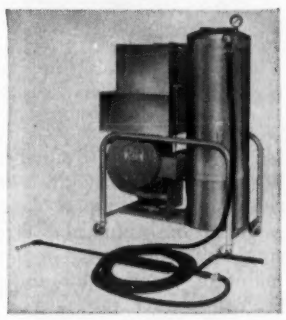
GLASS FIBER TANKS for metal plating and cleaning



Laminated glass fiber tank liners built in various sizes and shapes for plating and metal-finishing use are formed under heat and pressure. They are fitted to plywood tanks reinforced with structural wood members. Liner extends over the edge and includes a 12-in. skirt. Liners provide a high degree of electric and thermal insulation and are form stable at up to 240° F. Also available are formed, laminated glass fiber anode covers, as well as reliners for all wood and metal tanks. Made by **Myco Co.**, 705 E. Pleasant St., Belvidere, Ill.

▲ For more details circle **NED-193 C9** on enclosed inquiry slip ▲

STEAM CLEANER delivers 80 gph at 60-100 psi



Easily moved about the shop or yard, the Handy Dandy steam cleaner is designed for limited cleaning operations, or as an auxiliary or standby cleaner. It delivers 80 gal of solution hourly at 60 to 100 psi, and has the same type orifice-in-nozzle as larger Malsbary cleaners. Air atomizing burner assures complete combustion of fuel. Cleaning stream is regulated by setting burner control to pressure desired. Unit is offered in a caster-mounted, oil-fired model or a gas-fired model for stationary installation. Made by Malsbary Mfg. Co., 845 92nd Ave., Oakland 3, Calif.

▲ For more details circle **NED-194 C9** on enclosed inquiry slip ▲

NEW...

Gives 1½" Hose Lines Up to 6 Times More Fire Fighting Capacity!

The ROCKWOOD Handline Nozzle

Now you can give 1½" hose lines the fire fighting capacity of 2½" lines . . . simply by replacing conventional nozzles with Rockwood Handline Nozzles! These high capacity nozzles are highly versatile, too . . . can be quickly adjusted to deliver a solid, long-range FOAM stream, dispersed FOAM pattern, WaterFOG, fan-shaped WaterFOG pattern, or straight stream water. Positive control design assures easy handling under *all* fire conditions. Available in 2 capacities: 100 gal. and 60 gal. at 100 p.s.i. Write for complete details. Rockwood Sprinkler Company, 1369 Harlow St., Worcester 5, Mass. Tested and listed by Underwriters' Laboratories, Incorporated.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
Distributors in all principal cities

▲ For more details circle **NED-196 C9** on enclosed inquiry slip ▲

Quick Jab to the Heart Stops Hidden Fires Fast!

Rockwood Bayonet Piercing Applicator has hardened steel cutter at tip for piercing walls, plane fuselages, ventilator ducts, etc. Lightweight Rockwood 5-purpose SG-60 Nozzle adjusts quickly to Solid Water Stream; High or Low Velocity WaterFOG; Solid FOAM Stream; or Wide Angle FogFOAM Pattern.

You can reach the heart of hard-to-get-at fires in seconds using the Rockwood Bayonet Piercing Applicator . . . finish them fast with low-velocity WaterFOG delivered by the Rockwood SG-60 Nozzle. This high-efficiency combination quickly penetrates partitions, wood and metal panels, etc. Reduces pull-down damage in partition fires. Also useful for deep-seated dump fires. Ideal for air crash and rescue work, general fire fighting, and overhauling. Write for details.

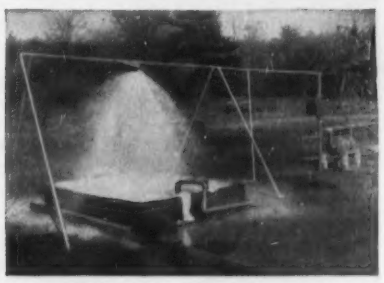
ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
1369 Harlow Street, Worcester 5, Massachusetts

▲ For more details circle **NED-197 C9** on enclosed inquiry slip ▲

From FLAME to FOAM in 20 seconds!

0 SECONDS: Gasoline-covered surface ignites in test that shows how effectively Rockwood stands guard against fire.

4 SECONDS: Rockwood Heat-Actuated Detector "senses" temperature rise of air, "triggers" release of FogFOAM.


20 SECONDS: Fire out — smothered by blanket of FogFOAM which barely rippled water's surface . . . kept fire within tank.

Almost as the flames break, the Rockwood Spot PROTECTION System goes into fast, positive action! Doesn't have to wait for a sprinkler head to fuse, because its Heat-Actuated Detector "senses" any dangerous rapid *rise in air temperature* (20 degrees a minute or faster) . . . automatically sends fast signal to release mechanism. Designed for control of hydrocarbon, alcohol, or ordinary combustible type fires, system dispenses Double Strength FOAM, All-Purpose FOAM, or WaterFOG depending on requirements.

You'll find Rockwood Spot PROTECTION Systems everywhere — guarding installations ranging from dip tanks to tank farms from all types of fires. Whether they're in fixed pipe lines or integrated in mobile units, each is precisely tailored to its requirements by engineers with years of experience in industrial fire protection. Components are fabricated at the Rockwood factory by specialized manufacturing methods using finest quality materials.

Write today for full information.

ROCKWOOD SPRINKLER COMPANY
1369 Harlow St., Worcester 5, Mass.

Engineers Water . . . to Cut Fire Losses
Distributors in all principal cities

▲ For more details circle **NED-195 C9** on enclosed inquiry slip ▲

FULL-SCALE ACCURACY

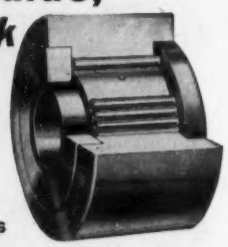
Whether it's inch grams or inch pounds, Apco Mossberg Torque Screwdrivers respond quickly and precisely throughout their entire range. There are no springs or delicate parts to get out of kilter! Large, white-on-black dial faces simplify readings . . . assure fast, accurate torque measurements on all types of electrical, electronic, or instrument assembly or repair jobs. Available in all sizes from inch-gram to inch-pound readings.

Write for details!

APCO MOSSBERG COMPANY
161 Lamb Street, Attleboro, Mass.

For more details circle NED-198 C9 on enclosed inquiry slip

For shaft mounted cam follower, guide, support or track roller bearings



Use McGILL Heavy Duty CAMROL® CYR Bearings

These precision heavy-duty cam yoke roller bearings are especially built to provide cam follower advantages for shaft or yoke mounting.
Sturdy roller retaining end plates are tightly fitted and secured to the end shoulders of the non-separable inner ring. An extra heavy outer ring withstands high shock loads. The full complement of precision ground small diameter rollers supports heavy loads in small radial space.
Standard roller diameters from ¾" to 4" cost less than improvised units.

Write for helpful Bearing Handbook No. H-54-B

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

For more details circle NED-199 C9 on enclosed inquiry slip

this is it! 8 PAGES

The world's greatest Reamer

SELECTION by the thousand's
BY STYLES • DIMENSIONS
RANGES • SELECTIBILITY
STOCK ITEMS • NET PRICES

BUY SUPEREAM — The reamer that is sold and stocked in more sizes than any other reamer in the whole world.

TWENTIETH CENTURY MFG. CO., Box 429NED, Libertyville, Illinois
GENTLEMEN: Send us the NEW SELECTIVE CATALOG No. 10A.
NAME _____ Firm _____
Address _____
City _____ Zone _____ State _____

For world's greatest selection of REAMERS!

For more details circle NED-200 C9 on enclosed inquiry slip

MOISTURE MONITORS measure traces in gases at up to 10,000 psig sample pressure

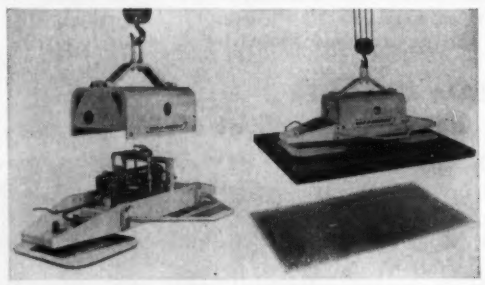
Rapid and accurate measurement of trace quantities of moisture in gases, gaseous mixtures, and vapors at sample pressure up to 10,000 psi can be done with Type 26-350 moisture monitors. Instruments will verify dryness of bottled breathing oxygen, check compressed air used to drive missile turbines, and test moisture in pneumatic control systems and bottled cylinder gases. They will also determine water content in chemical process streams, test natural gas, or monitor hydrogen feed in ammonia plants.

Instruments are rated for use at sample pressures of up to 3500 psig, 6000 psig, and up to 10,000 psig in a modified version. They cover a dynamic range of 1 to 1000 ppm. Each has a 63 per cent response within 90 sec to a step change in moisture content between 50 and 1000 ppm. Self-contained batteries allow portable use of these units. They also operate on 105 to 125 v 50/60 cycle ac. Made by **Consolidated Electrodynamics Corp.**, 300 N. Sierra Madre Villa, Pasadena, Calif.

For more details circle NED-201 C9 on enclosed inquiry slip

VACUUM PLATE LIFTER has two 20-in. square vacuum cups

At 10 psi, each square cup of this Vac-U-Mation vacuum lifter for steel and nonferrous plates has 4000 lb of lifting power, or 1000 lb with a 4 to 1 safety



factor. The 20-in. square cups with 400 sq in. of lifting surface are adjustable on either 42 or 54-in. centers. The integral vacuum pump has a displacement of 6.57 cfm and is driven by a ½-hp, 115-v, single-phase, 60-cycle motor. It runs periodically to maintain between 20 and 25 in. of vacuum in the built-in reserve tank. The cover is combined with a lifting strap. Even electrical failure will not permit the load to drop for a reasonable length of time, depending upon the condition of the material. Made by **F. J. Littell Machine Co.**, Vac-U-Mation Div., Dept. 2-L, 4127 N. Ravenswood Ave., Chicago 13, Ill.

For more details circle NED-202 C9 on enclosed inquiry slip

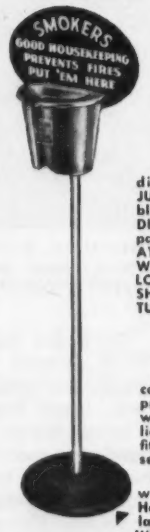
CIGARS-CIGARETTES-MATCHES immediately extinguished ...with SIPCO DUNKING STATIONS

Fire Hazards from Smoking are a problem EVERYWHERE.

STOP FIRES BEFORE THEY START—with SIPCO DUNKING STATIONS.

Heavy duty CAST ALUMINUM canisters—guaranteed 3 years against breakage. Partly filled with water, they drown the "smoke". NO FIRE HAZARDS — NO ODORS — NO UNSANITARY CONDITION.

Lift off the canister, flip back the lid, dump it and the cleaning job is done.



Available in over a dozen different STANDARD and JUMBO SIZE models. Choice of black crinkle or bright polished DELUXE finishes to suit your particular requirements. NEAT, ATTRACTIVE — USED EVERYWHERE — OFFICES, CLUBS, LOUNGES, HOSPITALS, HOTELS, SHOPS, RESTAURANTS, INSTITUTIONS, SCHOOLS, ETC.

NEW MODEL 4J
Designed for permanent mounting on walls, posts, columns, etc. in public areas. Eliminates pilfering problem. JUMBO size canister furnished with light weight, rugged glass-fiber inner-liner. Flip back the lid—lift out the inner-liner and dump it. Inner-liner fits all JUMBO size SIPCO canisters and is available separately.

MODEL 1JD
JUMBO size DELUXE FLOOR MODEL. Heavy weighted base and attractive, eye catching sign. Height 42"—weight 26 lbs. Ideal for halls, aisles, landings, etc. Also available less sign (MODEL 1JWS). WRITE FOR ILLUSTRATED BROCHURE.

STANDARD INDUSTRIAL PRODUCTS CO.
DEPT. D • 3527 FARMINGTON RD. • PEORIA, ILLINOIS

For more details circle NED-203 C9 on enclosed inquiry slip

The S-22 MICROFINISH COMPARATOR

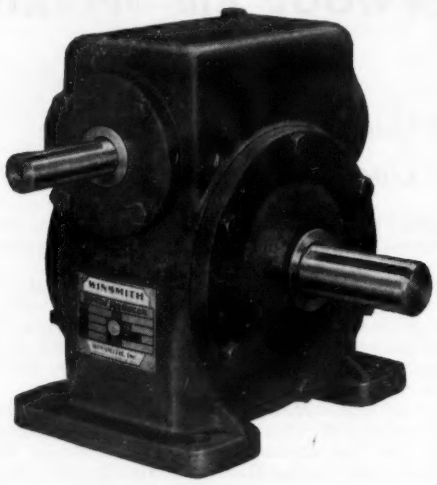
GAGE SURFACE FINISH TO NEW A.S.A. STANDARDS - Quickly - Accurately

This convenient pocket comparator has 22 precision surfaces for specifying and controlling finish to the new A.S.A. Standard B46.1 - 1955. Electroformed in durable corrosion-resistant nickel, the S-22 Comparator provides every department with the most inexpensive method for uniform, accurate control of finish characteristics.
Save valuable time in engineering, inspection, quality control—eliminate costly overfinishing in purchasing and production. $17.50 complete with leather case.
Available from leading industrial distributors, or write

FAIRFIELD DEVELOPMENT LAB., INC.
(SUCCESSOR TO BAPTIST MACHINE CO.)
40 Ludlow Street, Stamford, Conn.

For more details circle NED-204 C9 on enclosed inquiry slip

all the way up to 34 hp!



Winsmith worm gear speed reducers

For top performance on your big jobs, Winsmith Worm Gear Speed Reducers are available for any application up to 34 horsepower. Compact, efficient, economical — with endurance to spare — Winsmith Speed Reducers offer you the most complete line of standard models, sizes and drive arrangements from a single source. For speed reducer requirements all the way down to 1/100 hp, you'll find it pays to specify Winsmith.

WRITE TODAY FOR CATALOG NO. 155 for useful information on selection, operation and maintenance of the hundreds of sizes and types of Winsmith Speed Reducers.

WINSMITH SPEED REDUCERS

WINSMITH, INC.
119 Eaton Street, Springville, (Erie County), N. Y.

For more details circle NED-205 C9 on enclosed inquiry slip

NEW PERMA-GRIT* WHEEL from SKIL

Made to cut plastics and leave a smooth edge

An exciting new cutting wheel for phenolics, acrylics, fiberglass laminates. Use with table or radial saws. Tungsten carbide grit permanently bonded on edge and sides of wheel.

Thousands of sharp cutting grits give the ultimate in efficiency and long life. Cuts fast and sands at the same time.

Result is a smooth, chip-free cut. Conducts heat away from work, reducing possibility of fusing. Does the cutting job of diamond-grit blades costing several hundreds of dollars.

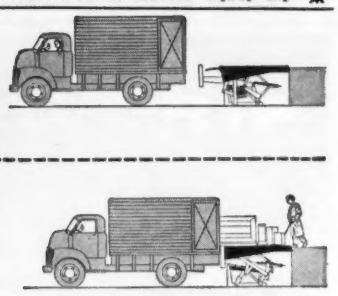
*A Trade Mark of SKIL Corporation

Choose from 8" dia. with ⅝",½" arbor hole or 10" dia. with 1", ⅝",½" arbor hole. Price: 8" dia.—$9.95; 10" dia.—from $14.95.

Made only by SKIL Corporation, manufacturer of famous SKIL and SKILSAW products, 5033 Elston Avenue, Chicago 30, Illinois

▲ For more details circle NED-206 C9 on enclosed inquiry slip ▲

NEW Automatic DOCK RAMP



Truck actuated . . . needs no counterweight

- Completely mechanical operation, powered by truck backing against ramp bumpers.
- Controlled tension spring assembly provides smooth operation and eliminates need for expensive counterweight.
- Positions automatically . . . has five other completely automatic features including cross traffic safety lock and self-aligning bumper.
- Low in cost and easily installed . . . recessed and front-of-dock models.

Rotary AUTOMATIC DOCK RAMP

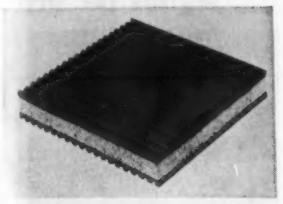
GET FACTS TODAY

***TEAR OUT** this page, clip to letterhead and mail to*

ROTARY LIFT CO.
Division of Dover Corporation
1058 Kentucky, Memphis 2, Tenn.

▲ For more details circle NED-207 C9 on enclosed inquiry slip ▲

VIBRATION MOUNTING PADS
load ranges to 3500 lb per sq ft



Transmission of vibration from machinery is reduced by 80 per cent with PadZorber neoprene mounting pads. These 18 x 18-in. sheets have deep cross-ribs molded on each side which eliminate machinery travel. They can be cut with knife or shears in any shape to fit under the feet of punch or drill presses, lathes, and other machinery. Made in load ranges up to 3500 lb per sq ft, pads can be used without bolting or built-up bases. Pads are also made in sandwich construction in the same load ranges with a special isolating material between the neoprene sheets. Made by **T. R. Finn & Co.**, Industrial Div., 200 Central Ave., Hawthorne, N. J.

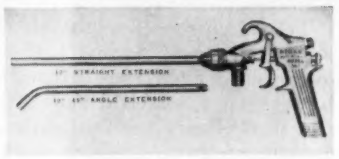
▲ For more details circle NED-209 C9 on enclosed inquiry slip ▲

SAFETY RELIEF VALVE
for air, gas, and hydraulic systems

ASME-approved for unfired pressure vessels, Series 42 safety relief valve has "blow down" limited to less than 10 per cent of set pressure. The "pop" valve can be used in air and natural gas systems, pressure vessels, and hydraulic systems containing oil, water, and salt water. Narrow 45-degree seats are accurately machined for a tight seal. The disc or movable seat is guided both above and below the seat for perfect alignment. Both seats may be replaced without removing the valve from the vessel. Steel and aluminum-bronze bodies with stainless steel seats are offered. High pressure instrument threads are optional. Made by **Fluid Mechanics Co.**, Box 194, Bellaire, Tex.

▲ For more details circle NED-210 C9 on enclosed inquiry slip ▲

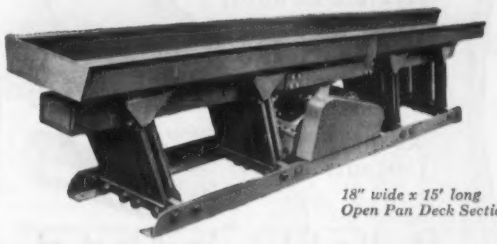
CLEANING & DEGREASING GUN
45-degree, 10-in. extension provided



Cleaning booth requirements where varsol, kerosene, naphtha, and similar industrial cleaning solvents are used are met by the Model 361 cleaning and degreasing gun. A 45-degree angle, 10-in. extension is available to increase gun's versatility. Gun can also be had with the straight 10-in. extension. Trigger control operates both air and cleaning fluid. Gun will operate with a pressure tank or by gravity feed. Made by **Binks Mfg. Co.**, 3122 W. Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-211 C9 on enclosed inquiry slip ▲

CONVEY...COOL...DRY
with one unit... in one pass!



18" wide x 15' long Open Pan Deck Section

Mechanical vibrating conveyor handles granular, free-flowing material at remarkably low cost per ton; cement clinkers to salt, powders to castings, a few pounds per hour to over 650 tons per hour. Enclosed models handle gaseous, dusty, toxic materials. No degrading of material. Abrasive wear on deck negligible. Virtually silent operation. Lubrication for drive motor only. Broad line of standard units in stock, specials made to order, any width or length. The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio. Sales offices and distributors in all major cities.

WRITE FOR CATALOG 908

CONVEYING • PROCESSING • MINING EQUIPMENT...TRANSMISSION MACHINERY ...CONTRACT MANUFACTURING

JEFFREY

▲ For more details circle NED-212 C9 on enclosed inquiry slip ▲

We're Still Looking for a Pipe Fitter Who Doesn't Prefer RIDGID®

"Of Course I said RIDGID ...It's the only pipe wrench for my money. I've got work to do!"

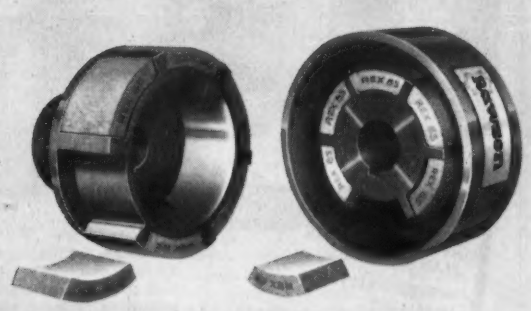
At your Supply House

The Ridge Tool Company Elyria, Ohio, U.S.A.

THREADED PIPE...*It's Tight...It's Best...Costs Less!*

▲ For more details circle NED-213 C9 on enclosed inquiry slip ▲

NEW RAWSON
Automatic Centrifugal Clutches and Clutch Couplings



- Cushioned "No Load" Starts
- Longer Service—Greater Capacity
- 100% Slip-Free Power
- Positive Overload Protection
- Effective Heat Dissipation
- Lower Maintenance and Inspection

FLUID-SMOOTH STARTS FOR HIGH INERTIA LOADS

Rawson clutches and clutch couplings utilize *metallic* friction shoes. As the driving half of the clutch picks up speed, centrifugal force moves the shoes outward to contact the inside surface of the driven half of clutch.

Shoes make smooth contact and slip momentarily until friction causes driven half of clutch to rotate. Complete engagement of shoes is obtained when driven equipment reaches full speed. Then, both halves of clutch rotate as a unit with no slippage, no power loss.

Send for Free Catalog containing complete information on the full line of Rawson Automatic Centrifugal Clutches and Clutch Couplings.

FORMSPRAG COMPANY
23595 Hoover Road, Dept. 101
Warren (Detroit), Michigan

Distributorships available in selected areas. Write for details.

Patent Pending

FORMSPRAG COMPANY

World's Largest Exclusive Manufacturer of Over-running Clutches

▲ For more details circle NED-208 C9 on enclosed inquiry slip ▲

INSTALLATION AS FAST

AS WITH REGULAR FLEXIBLE CONDUIT

PROTECTION AS SURE

AS RIGID CONDUIT

LIQUATITE®

Extruded Polyvinyl Jacket Molded to Galvanized Flexible Conduit

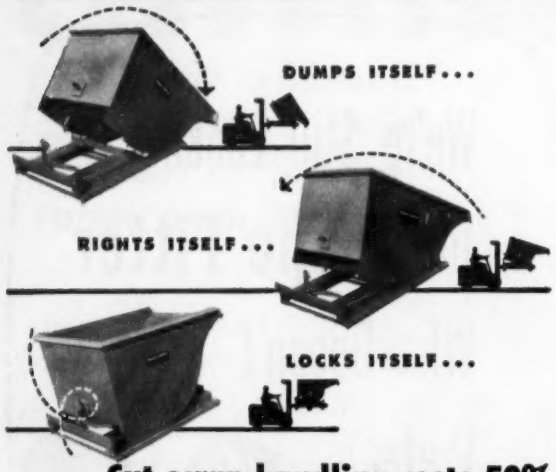
Complete protection against any and all contamination—impervious to water, oils, chemicals, corrosive atmospheres. Installed in minutes. No more "downtime" due to wiring shorts or burn-outs, no more periodic wiring replacements.

Type LT JIC Approved
Type LA Underwriters' Approved

Write for free sample, costs and name of Distributor nearest you.

ELECTRI-FLEX COMPANY
P. O. BOX 128-H • ROSELLE, ILLINOIS

▲ For more details circle NED-214 C9 on enclosed inquiry slip ▲



Cut scrap handling costs 50%

Hundreds of industries are now using Roura Hoppers instead of barrels or tote boxes to collect scrap metal. They're placed alongside machines or in strategic locations. When full, lift truck operator picks up loaded hopper . . . transports it to scrap bin or freight car . . . flips the latch . . . and the hopper automatically dumps its load, rights itself, locks itself.

Roura Hoppers are made in five sizes, ½ to 2 yard capacities. Built of ⅛" steel plate with continuous arc-welded seams. Also available in stainless steel or galvanized. Mounted on live skids or a choice of wheels. Standard models available for immediate shipment.

Write today for more information. ROURA IRON WORKS, INC. 1415 Woodland Avenue, Detroit 11, Michigan.

ROURA *Self-Dumping* HOPPER

▲ For more details circle NED-215 C9 on enclosed inquiry slip ▲

IT'S DONE WITH CONVEYORS!

- MULTIPLE LEVELS
- CONVERGING AND DIVERGING LINES
- PRACTICALLY AUTOMATIC

Metzgar combines Live Roller, Power Belt and Gravity conveyor units in a highly complicated handling operation that approaches complete automation.

Ask our experienced engineers to suggest efficient solutions to your handling problems.

METZGAR CONVEYOR CO.

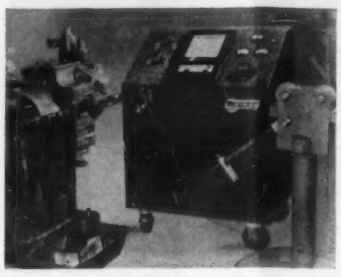
416 Douglas St. N.W.

MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

GRAND RAPIDS 4, MICH.

▲ For more details circle NED-216 C9 on enclosed inquiry slip ▲

PORTABLE RESISTANCE HEATERS
5 to 100-kw rated units heat metals for drawing or forming

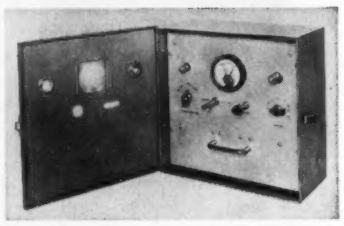


Close control of temperature in processing metals is achieved with Reslec electric resistance heaters, offered in 5, 10, 20, 30, 50, and 100-kw ratings. The portable units are used for wire drawing, extruding, warm or hot heading, forging, upsetting, roll threading and other roll forming processes, heat treating, and heating of strip stock prior to shearing. Units consist of a resistance heater, temperature sensing head, and a recording controller.

In forming, drawing, shearing, or other punch press work, heating unit is connected to the machine and to a set of rollers. Portion of metal between these two points is heated when power is applied. Thermocouple can be either a standard metallic unit or an optical sensing head. The 5, 10, and 20-kw Reslec unit is shown. Made by **Herscott Co.**, 2500 N. Main St., Rockford, Ill.

▲ For more details circle NED-217 C9 on enclosed inquiry slip ▲

MACHINERY SAFEGUARD
monitors automatic machinery by detecting overload or underload



Increases in the production of presses, dieing machines, conveyors, pumps, and machine tools can be realized when they are monitored by the Monitron through lunch periods, relief breaks, and while being restocked. This fail-safe electronic device protects electrically driven machines by continuously monitoring the power it draws. It senses minute changes in operating loads and functions within milliseconds, stopping a motor, releasing a clutch, applying a brake, and signaling a warning.

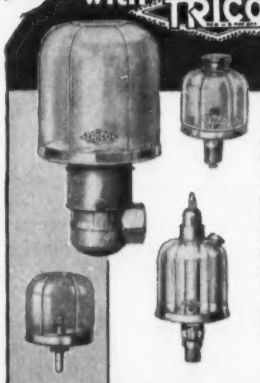
The Monitron is adjustable within practical limits to any value of normal load and to any degree of overload or underload. It will sense load increases from pile-ups, misfeeds, tool dullness, overhard or oversize stock, faulty lubrication, and other causes. Load decreases from feed failure, stock run-out, or undersize or soft stock are also sensed. Device operates on any single or three-phase 115, 220, 440, or 550-v, 60 cycle ac motor of ¼ to 95 hp when current input under actual load is between 1 and 30 amp. Made by **Sperry Products, Inc.**, 2100 Shelter Rock Rd., Danbury, Conn.

▲ For more details circle NED-218 C9 on enclosed inquiry slip ▲

CUT MANPOWER MAINTENANCE and OIL COSTS . . .

Increase Production

with TRICO AUTOMATIC OILERS



Why tolerate costly waste that can be reduced to a minimum? TRICO Oilers eliminate daily "trust-to-luck" hand oiling because one filling of the reservoir lasts a long time. Also, production can be increased, machine life prolonged, costly down-time eliminated. Yes, all these benefits and more for a small investment in TRICO Oilers.

SEND FOR FREE CATALOG

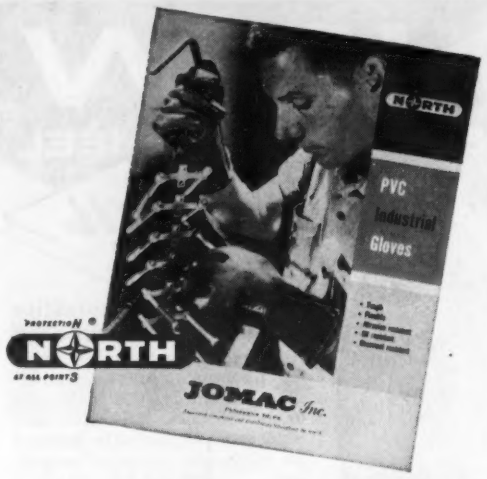
Cut Maintenance Costs With
TRICO KLIPLOK CLAMPS
For Fuse Clips

Save Power . . Fuses . . Clips . . Lock fuses and clips together. Insure easy flow of current. Prevent unnecessary shutdowns and fuse replacements. Especially recommended for use with Dual-Element fuses.

SEND FOR BUL. NO. 6

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

▲ For more details circle NED-219 C9 on enclosed inquiry slip ▲



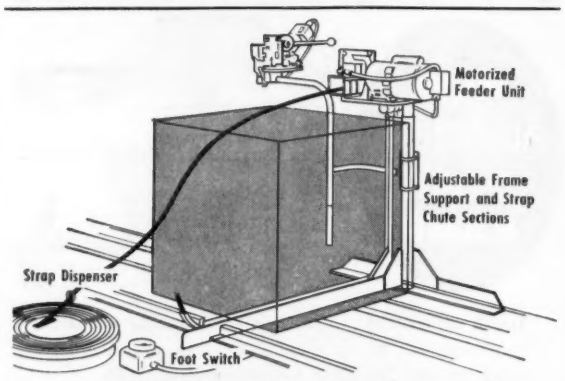
IT'S HOT!

New brochure tells you all about North PVC Industrial Gloves, latest advance in the field. Outlast others two to five times, comfortable, chemical resistant. Write for your copy today.

JOMAC *Inc.*

Dept. G, Philadelphia 38, Pa.

▲ For more details circle NED-220 C9 on enclosed inquiry slip ▲



New Signode power strap feeder puts strapping around big packages fast!

With this new power strap feeder, one man quickly straps big packages without a helper and without walking around the package. The PSF-1 applies 200 or more straps per hour, cuts strapping labor costs in half.

Here's the machine to use on big packages or bundles along with any Signode seal feed tool—hand, pneumatic, or electric—mounted in a tool balancer. Cost is modest; rental at nominal charge available.

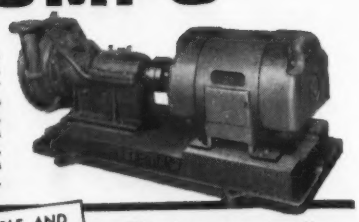
New free literature sent promptly. For a demonstration, call the Signode man near you, or write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

▲ For more details circle NED-221 C9 on enclosed inquiry slip ▲

Frederick

CENTRIFUGAL PUMPS



Single-End Suction SSV Pump—Equipped with enclosed impeller for clear liquids such as oils, chemicals, juices, acids, etc., or, open impeller for slurries, white water, sluggish liquids. Bulletin #107.

EFFICIENT, DEPENDABLE AND DURABLE FREDERICK PUMPS FEATURE:
INDIVIDUALLY DESIGNED IMPELLERS
INTERCHANGEABLE PARTS FOR FAST, EASY REPAIR
AVAILABLE IN ANY METAL OR ALLOY FOR SPECIAL APPLICATIONS

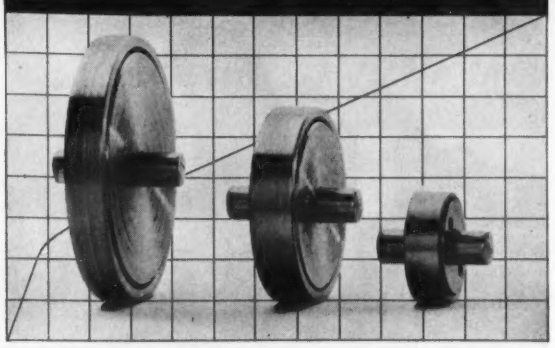
There's a complete line of Frederick Pumps available. Single and double suction, single and multi stage pumps, including process, paper mill, circulating and boiler feed pumps, motor pump units and vertical pumps. Write for full information and name of nearest representative.

FREDERICK IRON & STEEL, INC.
FREDERICK *Established 1890* MARYLAND

Manufacturers of industrial and municipal products including Drop Balls, Manhole Covers & Frames, Stokers, Shears, Contract Castings.

▲ For more details circle NED-222 C9 on enclosed inquiry slip ▲

MINIATURE ROTARY POSITIONING CONTROLS



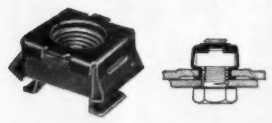
Inch Ounces to 65 Inch Lbs.—Precisely, positively held in an infinite number of positions. Clockwise or counterclockwise rotation. No backlash. Low breakaway torques. Vibration proof. Applications include no-back, potentiometer positioner, dial control, clutch, coupling, etc. Patented principle. Diameters ¾" to 1¾". Depth 5/16". We'll gladly send literature.

REID CONTROLS
Reid Metal Products, Inc.
2021 N. Lincoln St., Burbank, Calif.

For more details circle NED-223 C9 on enclosed inquiry slip

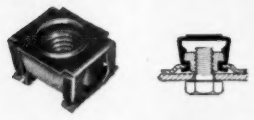
TINNERMAN
SPEED GRIP®
NUT RETAINERS

THE MOST ADVANCED METHOD



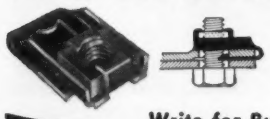
STANDARD—Eliminate welding, clinching, staking, hole misalignment and paint clogging! SPEED GRIPS are easily attached by hand. "Mechanical hands" hold nut in bolt-receiving position.

OF ATTACHING SQUARE NUTS



SELF-ANCHORING—Contains a special locking feature for permanent retention. High-torque holding power. Rattle-proof, cannot be dislodged even with abusive handling.

TO SHEET METAL PANELS•••



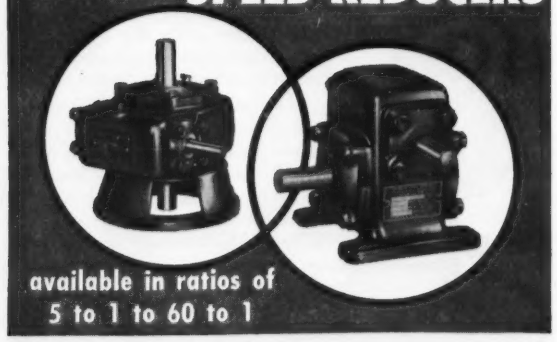
"J" TYPE—Snaps over panel edges by hand; ideal for blind locations. Self-retained in bolt-receiving position. Extrusion in retaining leg assures constant alignment.

Write for Bulletin No. 335

TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle NED-224 C9 on enclosed inquiry slip

PERFECTION
worm gear SPEED REDUCERS



available in ratios of
5 to 1 to 60 to 1

Perfection Worm Gear Speed Reducers by American Stock Gear are available in 9 complete series with ratios ranging from 5 to 1 to 60 to 1 for input revolutions ranging from 300 per minute to 1800 per minute. Speed Reducers are furnished in horizontal right angle drive with worm in either top or bottom position and are also furnished in vertical right angle drive. Shafts are mounted in Timken anti-friction roller bearings. Oil seals are of selected cirvis leather which assures maximum sealing effect. Available through your nearest American Stock Gear Distributor.

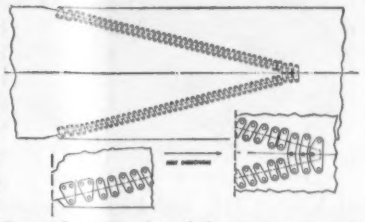
Write for new 16 page catalog covering the complete PERFECTION Speed Reducer line.

AMERICAN STOCK GEAR DIVISION
PERFECTION GEAR COMPANY • Harvey Illinois, U.S.A.

For more details circle NED-225 C9 on enclosed inquiry slip

CONVEYOR BELT SPLICE
withstands 700-lb-per-inch tension

Two rows of No. 2 Flexco bolt and plate fasteners with Monel tops are installed along a V-shaped splice-cut in assembling the Wedlok conveyor belt splice. Rated equal to a conventional vulcanized splice, it withstands operating tensions up to 700 lb per inch of width on belts of five or more plies and thicknesses of ½ in. and more. Special tip and tail fasteners secure the joint at the extremities of the fastener rows. Special plates and instructions are included in Wedlok splice kit. Made by **Raybestos-Manhattan, Inc.**, Manhattan Rubber Div., 61 Willet St., Passaic, N. J.



For more details circle NED-226 C9 on enclosed inquiry slip

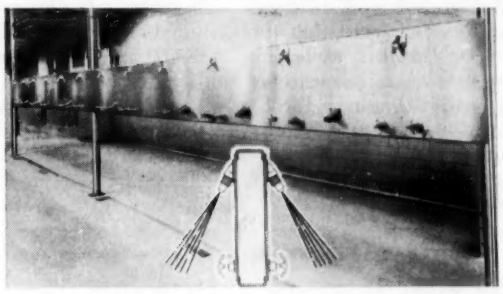
LOCKING TYPE SWITCH
pushbutton unit is rated 3 amp

Mounted easily on ⅝-in. centers, locking type pushbutton switches conserve panel space. They have steel frames, nickel silver leaves, fine silver contacts, and plastic buttons. Rated 3 amp, they can be supplied in various contact arrangements. Made by **Richards Electrocraft, Inc.**, 4432 N. Kedzie Ave., Chicago, Ill.

For more details circle NED-227 C9 on enclosed inquiry slip

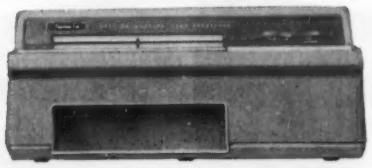
MULTISTATION SHOWERS
4, 6, 8, 10, and 12-station models

Basic stainless steel unit of the Belanea Showergon industrial shower installation embodies concealed piping, shower combinations, and soap facilities. Back-



to-back units with 4, 6, 8, 10, or 12 shower stations are available. Stock end supports and mounting brackets are supplied according to the job. All exposed fixtures are chrome plated and have vandalproof screws. All interior parts are stainless steel, copper, or brass. Inset in photo shows cross section of the shower fixture. Made by **Logan Mfg. Co.**, Box 111, Glendale, Calif.

For more details circle NED-228 C9 on enclosed inquiry slip



"Thermo-Fax" Copying Machine number one choice of businessmen

The fastest . . . get completely dry copies of business papers in just four seconds!

The cleanest Not a drop of chemicals to spill . . . the "Thermo-Fax" Copying Machine is *all-electric!*

The easiest One simple operation . . . anyone can make copies with the "Thermo-Fax" Copying Machine!

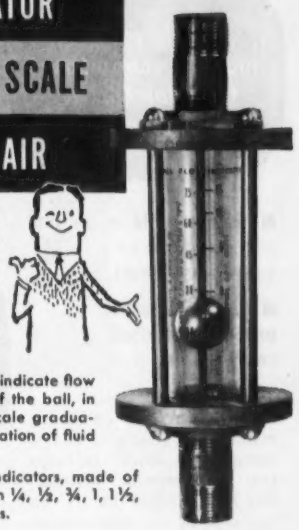
The most economical Copies . . . substantially less than those made the wet process way.

Thermo-fax COPYING PRODUCTS
PRODUCT OF 3M COMPANY RESEARCH
MINNESOTA MINING AND MANUFACTURING COMPANY
THE TERM "THERMO-FAX" IS A TRADEMARK OF MINNESOTA MINING AND MANUFACTURING COMPANY

MINNESOTA MINING AND MANUFACTURING COMPANY
Dept. KP-39, St. Paul 6, Minnesota
Yes, I'd like to find out how the "Thermo-Fax" Copying Machine can speed work and cut costs in my business.
Name_____
Company_____
Address_____
City_____ Zone____ State____

For more details circle NED-229 C9 on enclosed inquiry slip

SK FLOW INDICATOR
PROVIDES DUAL SCALE
FOR WATER OR AIR



Now, you can obtain approximate measurement of water flow in gpm and air flow in cfm with SK's Fig. 18123 Ball Flow Indicator.

Note the dual scale, for water and air, on the Flow Indicator in the illustration.

This indicator uses a ball to indicate flow in a pipe line. The position of the ball, in relation to the water or air scale graduations gives approximate indication of fluid rate-of-flow.

SK Fig. 18123 Ball Flow Indicators, made of bronze, are carried in stock in ¼, ½, ¾, 1, 1½, and 2 in. pipe connection sizes.

Bulletin 18W gives complete details on SK's Ball Flow Indicator as well as SK's Flapper and Rotary Types. Copies are available on request.

Schutte and Koerting COMPANY
INSTRUMENT DIVISION
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.

For more details circle NED-230 C9 on enclosed inquiry slip

NEED BETTER DRUMS?

Alcoa's Jobbing Division Has Them

ALUMINUM, 55-gallon, general-purpose shipping drum weighs only 33 pounds, but ingenious design and high-strength Alcoa alloy make it ruggedly resistant to shock and pressure. Nonscaling, nonsludging, noncontaminating and chemically neutral to a wide range of commercial liquids, including food products.

LIGHT, STRONG Alcoa® Aluminum shipping drums increase payloads, reduce dead weight and save on labor costs of handling and cleaning for re-use. They are made in a wide variety of types and sizes.

FREE TO MANUFACTURERS: In addition to such "standard" items as shipping drums for industry, Alcoa's Jobbing Division has the world's finest aluminum fabricating facilities for *subcontracting* to your order any aluminum components for anything you make. Sixteen-page free booklet describes how these facilities can save you tooling-up costs, lighten your production load and generally cost you *less* than if you shouldered the whole job yourself. For your copy, write or just clip and mail the coupon.

ALCOA ALUMINUM
Your Guide to the Best in Aluminum Value
Watch
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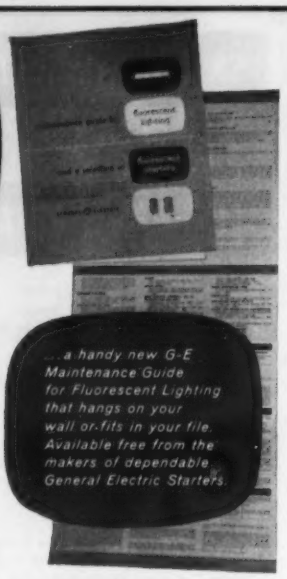
ALUMINUM COMPANY OF AMERICA
1866-C Alcoa Building, Pittsburgh 19, Pennsylvania
Please send my free copy of *Alcoa Aluminum Fabricating Facilities.*
NAME_____ TITLE_____
COMPANY_____
STREET ADDRESS_____
CITY_____ STATE_____

For more details circle NED-231 C9 on enclosed inquiry slip

To help you get more for your money from fluorescent lighting



■ **Lists trouble symptoms and remedies on easy-to-use chart.**

■ **Helps you select properly matched components.**

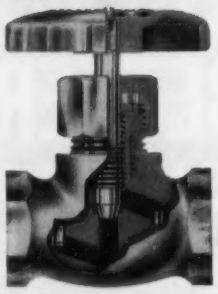
This new G-E guide is a handy reference chart for maintaining your present system . . . and more! It helps you to determine whether, and how, *improvements* can be made in the combination of lamps, starters, ballasts, etc., that you have now . . . to deliver *more* of the type of light you require, at *lower cost*. It brings up points you may not have realized before, that can make your job easier.

Ask your General Electric distributor for the new G-E Maintenance Guide for Fluorescent Lighting, or write General Electric Company, Wiring Device Dept., Providence 7, R. I.

GENERAL ELECTRIC

▲ For more details circle NED-233 C9 on enclosed inquiry slip ▲

NEW for applications where space is limited and operating areas are close



- accurately controlled
- perfect shut-off
- high pressure

KEROTEST

N-28 GLOBE TYPE NEEDLE VALVE

Short, compact, precision-machined, this new Type N-28 Valve is designed for services which demand accurate control.

One-piece forged carbon steel body—12/14 chromium heat treated stainless steel stem, Teflon packing—Maximum working pressure 10,000 p.s.i. at 70°F. Available in sizes ⅛", ¼", ⅜" and ½".

Write for the new N-28 Bulletin

KEROTEST MANUFACTURING CO.
2522 LIBERTY AVENUE, PITTSBURGH 22, PA.

▲ For more details circle NED-234 C9 on enclosed inquiry slip ▲

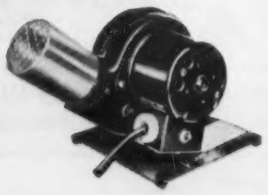
FLAMELESS BLOW TORCH

FOR QUICK HEAT UP TO 1000° F.

For applications requiring quick concentrated heat blast up to 1000° F. without flame. Soften, form, mold and patch plastics, etc. Temperature varied by air intake adjustment. 110-120 V. AC-DC motor. 8 ft. heavy duty cord. Intermittent duty. $37.50
Other models available with lower temp. ranges

Most of the big names in industry use MAMCO in laboratories or in production

AIR HEATER BLOWER

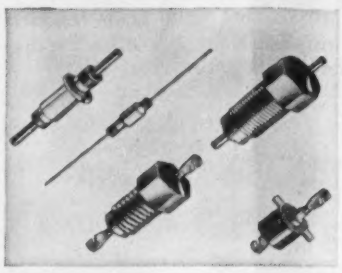


For quick electrically heated air up to 500° F. For accelerating drying processes or for localized heating. B.T.U. 3400. Air velocity 2000 FPM. 110-130 V. AC only. 8 ft. heavy duty cord. Continuous duty. 2" dia. x 3" long discharge nozzle.
Order through your local laboratory or industrial supplier or direct.
300° F.—1000 Watts $37.50
500° F.—1400 Watts $39.50

MAMCO Corporation, Racine, Wisconsin

▲ For more details circle NED-235 C9 on enclosed inquiry slip ▲

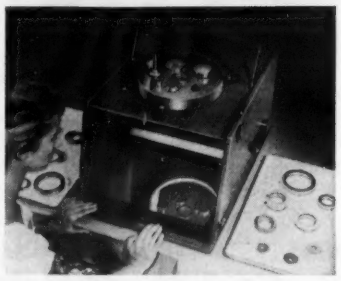
FEED-THROUGH FILTERS stop feed-back in 50-5000 mc range



High frequency radiation and feed-back in low power circuits is eliminated by these miniature, low pass, feed-through filters designed for frequency range of 50 to 5000 mc. Effective capacitance increases at VHF, UHF, and high frequencies. Effective filtering capacitances up to 500,000 uuf is demonstrated by these elements. Units can be supplied with cascaded elements for individual selectivity. Ratings range to 500 v dc at up to 125° C ambient temperatures. Maximum direct-current and low-frequency currents are 5 amp. Made by **Allen-Bradley Co.**, 136 W. Greenfield Ave., Milwaukee 4, Wis.

▲ For more details circle NED-236 C9 on enclosed inquiry slip ▲

MONOCHROMATIC LIGHT SOURCE used with optical flats to speed inspection of surface flatness



Used in conjunction with new, coated Cartriflat optical flats, this Cartrilamp monochromatic light source speeds inspection of parts for surface flatness. Work is placed on top of the 10-in. diameter flat instead of beneath it. A look into the viewing mirror completes the inspection. Flat is fixed in position to avoid needless handling.

Coating on the Cartriflat increases the reflectivity in some areas and decreases it in others. It also concentrates and intensifies the helium light on the work surface. Bright, well-defined bands are easily read without eyestrain, even on dull-lapped parts. Bands can readily be seen through an appreciable air gap, at various distances. Viewing mirror is inside the cabinet, shielded from outside light glare. Cartriflats measure accuracies within 0.000005 in. Made by **Cartriseal Corp.**, 3515 W. Touhy Ave., Lincolnwood, Ill.

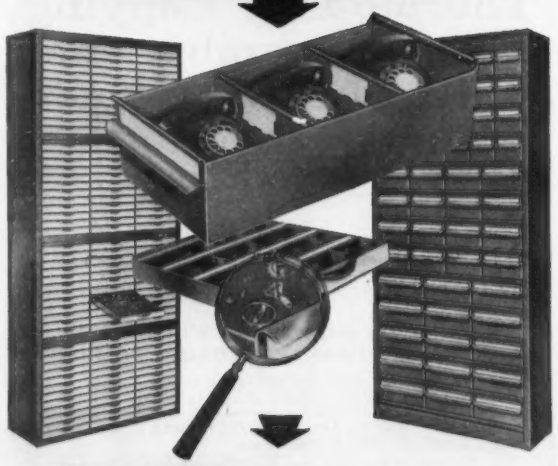
▲ For more details circle NED-237 C9 on enclosed inquiry slip ▲

Hand Tools

Vlchek Tool Co.—Illustrations and specifications for alloy steel and drop forged carbon steel wrenches and open end and box type wrench sets are found in 36-page Catalog 10. Also covered are socket and adjustable wrenches, pliers, screwdrivers, chisels, punches, metal shears, hammers, mallets, and plastic storage and utility boxes.

▲ For more details circle NED-238 C9 on enclosed inquiry slip ▲

If your parts are large or small Equipto drawers will take them all

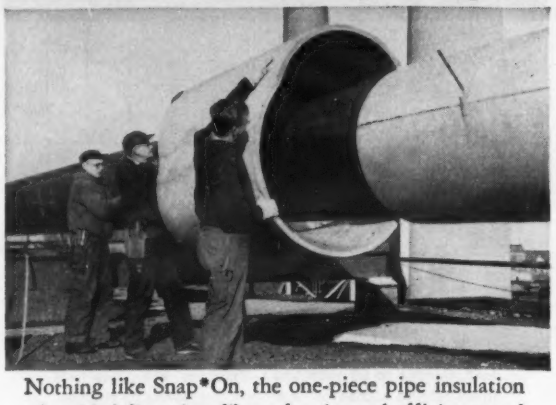


Equipto
690 Prairie Avenue
Aurora, Illinois

Write for completely NEW 1959 Drawer Catalog No. 302 . . . Hundreds of new items.

▲ For more details circle NED-239 C9 on enclosed inquiry slip ▲

They compared "K" Factors and Cost Factors...and bought Snap*On®



Nothing like Snap*On, the one-piece pipe insulation of molded fine glass fibers, for thermal efficiency and economy, for cold or hot piping up to 350°. Just open the seam—it snaps on the pipe! It comes in 3′ and 6′ sections that one man can apply. Available in all major cities, plain or jacketed, in sizes from copper tubing to 36" IPS. See Yellow Pages for local Snap*On distributor, or write today to **Gustin-Bacon Manufacturing Company, 262 W. 10th St., Kansas City, Mo.** *Advt.*

▲ For more details circle NED-240 C9 on enclosed inquiry slip ▲

Get* fast, uniform mix *for your product

Handle fluid mixing jobs rapidly with this simple add-a-unit system

MANY OTHER TYPES for permanent mounting on open or closed tanks of any size. For facts on complete line, request illustrated Catalog B-109.

Speed up your mixing operations! Clamp a LIGHTNIN Portable Mixer on your open tank or container and you've got a low-cost mixing vessel.

So flexible—mix, blend, stir . . . make up heavy slurries . . . dissolve fine powders . . . do any of hundreds of mixing jobs at the flip of a switch. Capacity growing? Just add more LIGHTNINS as you need them!

Get exact mixing action you need—turbulent or gentle, slow roll or rapid double-action top-to-bottom turnover—for thorough mixing in shortest time. Your results are *unconditionally guaranteed.*

Mixer locks instantly at any position. True-running shaft is quickly removable; cannot loosen or jam in service. Widest choice of ball-bearing motors. Thirty portable models to choose from: direct or gear drive, electric or air driven; sizes ⅛ to 3 HP.

For details, request 28-page illustrated Catalog B-108.

Lightnin® Mixers

MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-c Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.

▲ For more details circle NED-241 C9 on enclosed inquiry slip ▲

FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

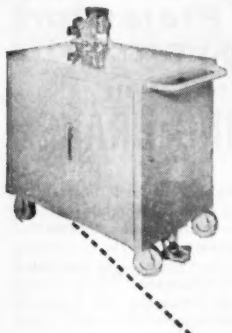
available with privacy handset, light and chime signals

★ AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

★ See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.

▲ For more details circle NED-242 C9 on enclosed inquiry slip ▲



here today...

Portable workbench can be rolled to work location by one man. Doors can be locked to fully protect all contents. Unit is all-welded 1/8-inch and 3/16-inch steel plate construction . . . and can support up to 2000-pounds safely. Heavy-duty roller bearing wheels (hard rubber or phenolic resin) are furnished. Foot-operated locking mechanism securely positions workbench.

Standard "Roll-A-Bench" weighs 325-pounds and is 34-inches high, 41-inches long and 26-inches wide. Other sizes are available to meet individual requirements. *Write* today for literature.

there tomorrow!

Overbeke-Kain

MOBILE WORKBENCH

Several territories available for qualified manufacturer's representatives or distributors. Write today for information.

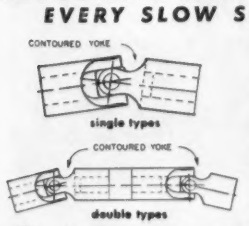
THE OVERBEKE-KAIN COMPANY
20979 Aurora Road • Bedford, Ohio

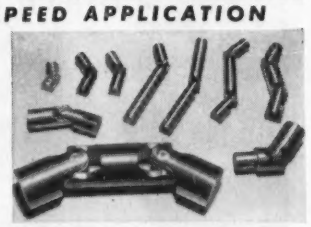
Overbeke-Kain

▲ For more details circle NED-243 C9 on enclosed inquiry slip ▲

Lovejoy UNIVERSAL JOINTS

INDUSTRY'S MOST COMPLETE LINE FOR EVERY SLOW SPEED APPLICATION





Check these features against your requirements:

Special Contoured Yoke—capable of operating at a maximum angular misalignment of 45° on hand-operated applications.

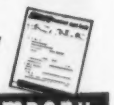
Static Torque—from 306 to 129,693 in.-lbs. at 12°, depending on size of joint.

Horsepower Ratings—.54 to 207 at 100 rpm.

Tolerances—pins ground to .0005" . . . forks concentric to within .001" . . . precision accurate center blocks.

Standard Specifications—hub diameters ½ to 4" . . . bores ¼ to 2" . . . lengths (single) 2 to 10⅝", (double) 4 to 21¼". All specifications can be altered or special joints designed to individual requirements.

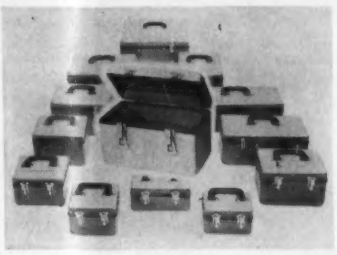
GET THIS HANDY GUIDE . . . It's the quick and easy way to get the Universal Joint that is just right for your application. Request Bulletin 820.



LOVEJOY FLEXIBLE COUPLING COMPANY
4803 WEST LAKE STREET • CHICAGO 44, ILLINOIS

▲ For more details circle NED-244 C9 on enclosed inquiry slip ▲

CARRYING CASES
11 standard sizes made of aluminum



Products requiring dust - tight and spray - tight protection can be housed in any of 11 standard aluminum carrying cases available "off the shelf." They range in size from 4 x 7 x 4¼ in. to 9 3/16 x 13¼ x 9 in. Known as Zero Commercial Carrying Cases, they are made of 0.063-in. deep drawn aluminum and are equipped with a neoprene gasket, nickel-plated latches, and aircraft type hinges. Cases are offered unpainted where secondary operations such as welding are to be performed, or with a light gray Perma-Resin finish which resists abrasion, heat, corrosion, and solvents. They meet certain military standards. Made by **Zero Mfg. Co.**, 1121 Chestnut St., Burbank, Calif.

▲ For more details circle NED-245 C9 on enclosed inquiry slip ▲

CHART DRIVE
now employs jeweled escapement

In addition to increasing accuracy substantially, a seven-jewel escapement now available with all Rockwell 31-day Chart Drives requires little power to operate. The Chart Drive is used for driving recording charts, particularly pressure flow and temperature recorders, of seven to 31-day rotation. Turrets have been designed to augment the standard seven-day rotation of the main arbor to give eight-day, 15-day, 16-day, 24-day, 30-day, and 24-hr rotation. Made by **Rockwell Mfg. Co.**, Meter & Valve Div., 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-246 C9 on enclosed inquiry slip ▲

SCREWDRIVER-NUT RUNNER
automatically starts and stops

Air motor of the Clecomatic screwdriver - nut runner automatically starts, then shuts off instantly when the screw or nut has been tightened to the specified torque. The operator merely engages the screw with the finder and bit. The air motor runs only during the actual run-down of the fastener. A nonfriction clutch with no-drift adjustment permits precise setting of torque. Nonreversing Model IOSA has a speed of 950 rpm, weighs 2 lb 5 oz, and is 10 5/16 in. long. Reversing Model IORSA runs at 700 rpm, weighs almost 3 lb, and is 11 13/16 in. long. Both have a ¼-in. free-running and No. 10 self-tapping fastener capacity. Made by **Reed Roller Bit Co.**, Cleco Air Tools Div., 5125 Clinton Dr., Houston 20, Tex.

▲ For more details circle NED-247 C9 on enclosed inquiry slip ▲

Designed for forming around the job. Self-supporting. Easily rolled up and carried. Durably constructed of flameproofed canvas over a flexible mesh frame. Broad range of sizes to meet your particular needs.

IPCO

INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

PORTABLE SPARK FLASH SHIELDS

INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth Street, Philadelphia 33, Pa.
Please send literature and price on Portable Shields.

NAME_____
TITLE_____
COMPANY_____
ADDRESS_____

▲ For more details circle NED-248 C9 on enclosed inquiry slip ▲

Hose and hose fittings are easy to select from this 72-page Parker Catalog

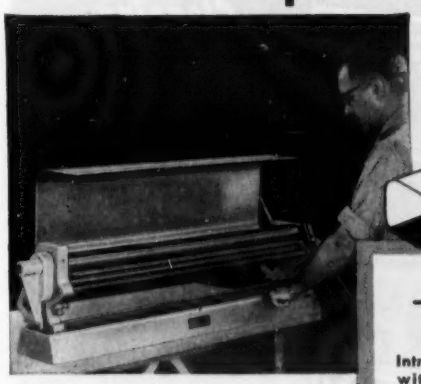
It's easy to choose the best Parker Hose and Parker Hose Fittings to handle practically any gas from air to freon, practically any liquid from water to synthetic hydraulic fluids from the data, specs, and recommendations in the complete Parker Hose Fittings and Hose Catalog 4400. Also includes useful information on assembling both standard and Parker "no-skive" Hoze-Lok Fittings to 15 types of Parker Hose.

Your Parker Hose Fittings and Hose distributor, listed in the Yellow Pages, can furnish you a copy. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-249 C9 on enclosed inquiry slip ▲

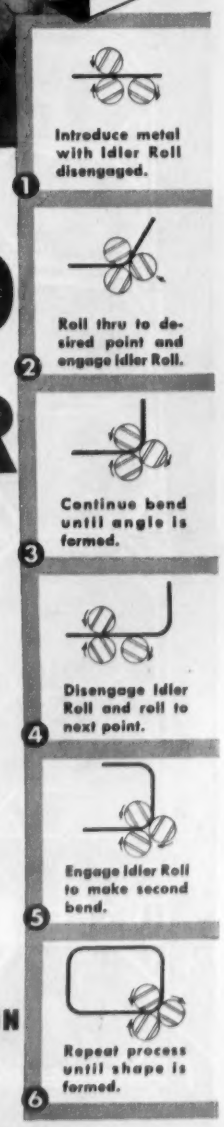
HOW TO FORM a rectangular shape



with the

DI-ACRO ROLLER

Forming small and large circles without flat spots and a variety of other sheet metal shapes is easily accomplished on the Di-Acro Roller with its *exclusive cam actuated Idler Roll.* Consult the yellow pages of your phone book for the name of your nearest Di-Acro distributor or write for six page instruction folder.



pronounced die-ack-ro

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. CO.
354 Eighth Ave., Lake City, Minn.

▲ For more details circle NED-250 C9 on enclosed inquiry slip ▲

TOKHEIM High-Vacuum

HAND PUMPS

for industrial liquids

Here's an all 'round utility pump that saves much more than its cost in speeding production, improving housekeeping, preventing waste. Eliminates slippery floors and liquid accumulation so often the cause of fire and accidents. Delivers 20 gallons per 100 back and forth strokes. Pumps oil and many other liquids. (Write for approved list.) Has hose or spout outlet. Call your dealer, your Tokheim representative, or write factory.

General Products Division

TOKHEIM CORPORATION

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901

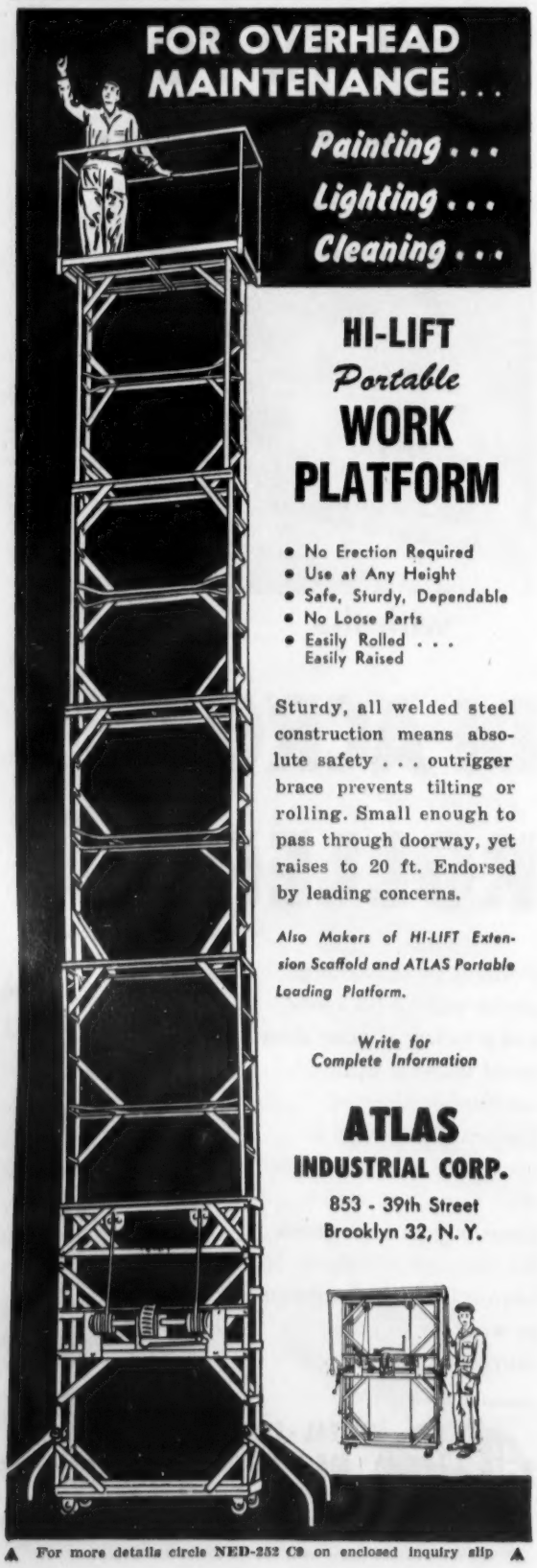
1656 Wabash Ave. Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland — GenPro, Inc., Shelbyville, Ind. *Factory Branch: 475 Ninth Street, San Francisco 3, California* In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

▲ For more details circle NED-251 C9 on enclosed inquiry slip ▲

FOR OVERHEAD MAINTENANCE . . .

Painting . . .
Lighting . . .
Cleaning . . .



HI-LIFT *Portable* **WORK PLATFORM**

- No Erection Required
- Use at Any Height
- Safe, Sturdy, Dependable
- No Loose Parts
- Easily Rolled . . . Easily Raised

Sturdy, all welded steel construction means absolute safety . . . outrigger brace prevents tilting or rolling. Small enough to pass through doorway, yet raises to 20 ft. Endorsed by leading concerns.

Also Makers of HI-LIFT Extension Scaffold and ATLAS Portable Loading Platform.

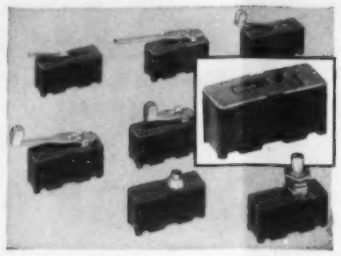
Write for Complete Information

ATLAS INDUSTRIAL CORP.

853 - 39th Street
Brooklyn 32, N. Y.

▲ For more details circle NED-252 C9 on enclosed inquiry slip ▲

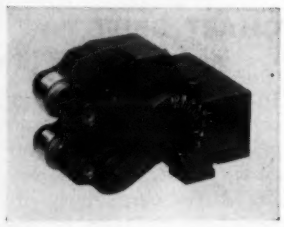
SNAP-ACTION SWITCHES rated at 20 amp, 125/250 v ac



Small, precision snap-action switches in the S2A Series are usable for manual and mechanically actuated electrical and electronic uses. Rated at 20 amp, 125/250 v ac, they have a one-piece beryllium copper blade and silver contacts, plus an ammonia-free phenolic case. Switches withstand excessive actuating pressures without blade, contact, or case damage. Molded-in barriers separate screw terminals and leads. Eight actuator mechanisms are offered. Made by **Hetherington Inc.**, Delmar Drive, Folcroft, Pa.

▲ For more details circle NED-253 C9 on enclosed inquiry slip ▲

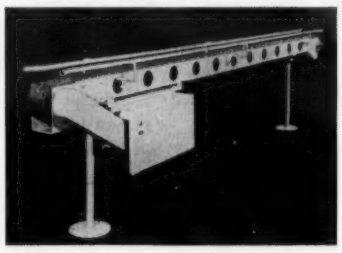
THREAD ROLLING ATTACHMENT for single-spindle automatics



Having a 0 to 5/16-in. diameter capacity and maximum thread length of ½ in., Model 5B thread rolling attachment is used on No. 00 Brown & Sharpe single-spindle automatics. It is free-floating for proper alignment, and advanced compensator allows rolls of same diameter to be used interchangeably. Setup is simple matter with a standard micrometer. Made by **Reed Rolled Thread Die Co.**, 791 Main St., Holden, Mass.

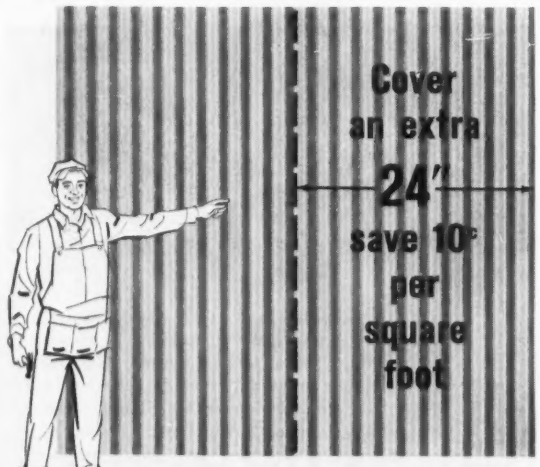
▲ For more details circle NED-254 C9 on enclosed inquiry slip ▲

FLAT TOP CONVEYORS nylon track operates quietly



Improved line of Silent - Top conveyors for cans, jars, and bottles has a continuous nylon track under both load and return sides of the belt. Available in 3¼, 4, 4½, 6, and 7½ in. widths, unit is also offered with stainless steel or nylon belts. Fixed speeds range from 10 to 200 fpm, although higher speeds and variable speed drives are obtainable. Adjustable or fixed side rails, transfer discs, rotary tables, accumulating conveyors, and other accessories are available. Features include access opening along both sides, grease-sealed ball bearings on terminal shafts, enclosed unitized drive, and adjustable pedestal legs. Made by **M-H Standard Corp.**, 515 Communipaw Ave., Jersey City 4, N. J.

▲ For more details circle NED-255 C9 on enclosed inquiry slip ▲



New WIDER Structoglas panels save labor, waste and money

Two new widths of Structoglas reinforced fiber glass panels give you more installed coverage area per dollar than any other panel (51½" for skylights, 50" for glazing, both covering 48"). Wider Structoglas has fewer overlaps, needs less fasteners, takes less time to install. You actually save 10c per square foot when you install 51½" Structoglas instead of ordinary 27½" panels.

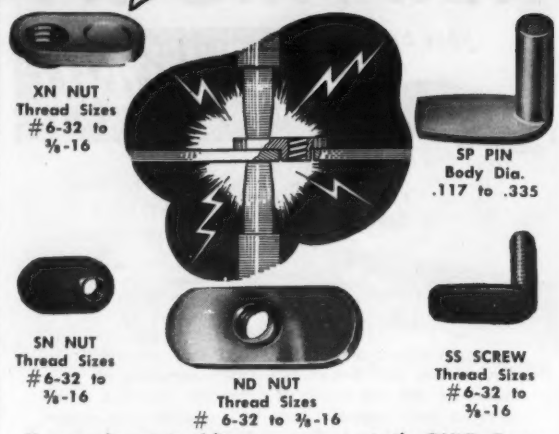
Write for specs and prices today! Structoglas Division of International Molded Plastics, Inc. Dept. NE3, Cleveland 9, Ohio

structoglas®

5810

▲ For more details circle NED-256 C9 on enclosed inquiry slip ▲

OHIO SPOT WELDING FASTENERS



If you do spotwelding you can attach OHIO Spotweld Fasteners at the same time for faster, trouble-free assembly.

Samples and information available upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.

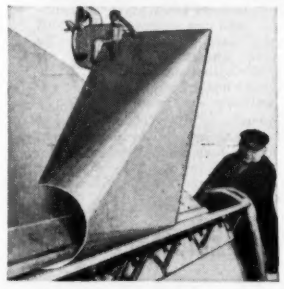
14 FIRST STREET BEREA, OHIO

▲ For more details circle NED-257 C9 on enclosed inquiry slip ▲

Bending Steel Plates for WELDMENTS?

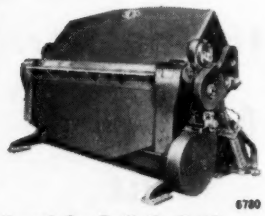
do it economically with

CHICAGO® BENDING BRAKE



Many standard sizes are available with capacities for bending mild steel up to 12 feet by ¾ inch or 16 feet by ½ inch.

The elimination of die costs and the ease of changing from one job to another make the CHICAGO bending brake the economical method for bending steel plates for weldments. An automatic stop regulating the degree of bend assures duplication on successive pieces.



6780

For details on how to do it, ask for Bulletin P-55

CHICAGO DREIS & KRUMP — Press Brakes · Straight-Side-Type Presses · Press Brake Dies · Hand and Power Bending Brakes · Special Metal-Forming Machines

DREIS & KRUMP MANUFACTURING CO.

7436 South Loomis Boulevard, Chicago 36, Illinois

▲ For more details circle NED-258 C9 on enclosed inquiry slip ▲

ELIMINATE STOCK PUSHERS . . . . . FEEDOUT CAMS . . . .

with GREENLEE **AIR-FEED AUTOMATICS**

You don't need costly stock pushers and feed-out cams with Greenlee Air-Feed Automatics. Air lines are connected to the tubes by quick couplings. Vacuum pumps withdraw pistons for fast restocking. Ask your Greenlee Representative to show you other ways of beating high production costs with Greenlee Air-Feed Automatics.

FAST SET-UPS BECAUSE . . .

- ✓ Wide-open tooling area
- ✓ Interchangeable tool holders
- ✓ Easy-to-change stationary type collets

WRITE FOR CATALOG A-405

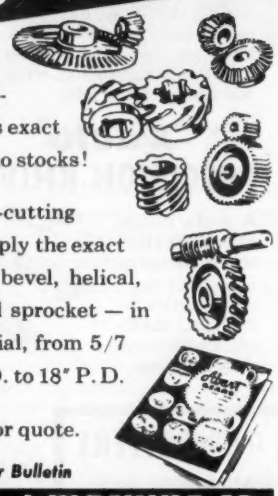
GREENLEE

GREENLEE BROS. & CO.

1753 MASON AVE. ROCKFORD, ILLINOIS

▲ For more details circle NED-259 C9 on enclosed inquiry slip ▲

reliable ONE SOURCE FOR ALL YOUR Abart GEAR NEEDS



Every Abart gear is precision-cut to the customer's exact specifications. We carry no stocks!

Abart has complete gear-cutting facilities to promptly supply the exact gear you want — spiral, bevel, helical, internal, worm, rack and sprocket — in any quantity, any material, from 5/7 D.P. to 96 D.P.—¼" P.D. to 18" P.D.

Send B/P or specs. Ask for quote.

Write for Abart Gear Bulletin

ABART GEAR and MACHINE CO.

4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

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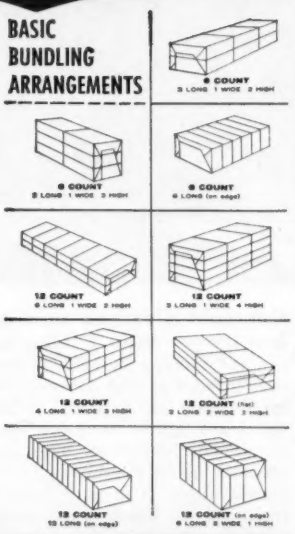
NEW from *BATTLE CREEK*

HAND FED AUTOMATIC BUNDLER WRAPS LARGE PACKAGES

- Speeds from 1 to 18 per minute
- Handles Cellophane
- Kraft paper with glue
- Polyethylene, Mylar, etc.
- Handles lengths 5" to 12", widths 4" to 10", heights 2" to 8"
- Wraps without supports
- One operator to assemble items . . . balance of operation automatic

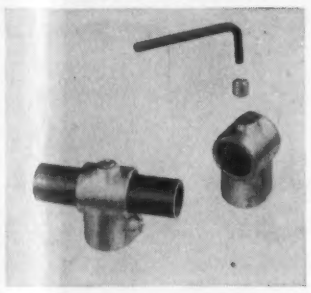
BASIC BUNDLING ARRANGEMENTS



Continuous Flow *BATTLE CREEK packaging machines, inc.*
BATTLE CREEK, MICHIGAN

▲ For more details circle NED-261 C9 on enclosed inquiry slip ▲

STRUCTURAL PIPE FITTINGS for ⅜ to 2-in. diameter pipe



Galvanized for indoor and outdoor use, Kee Klamp malleable iron fittings with setscrews are used with plain-end iron or steel pipe to build storage racks, frames for signs and exhibits, railings, and other structures. These re - usable fittings are made in 56 styles for ⅜ to 2-in. diameter pipe and are assembled with an Allen wrench. Setscrews are capable of supporting 4000-lb loads. Distributed by **Kee Klamps North America Ltd.**, 1079 William St., Buffalo 6, N. Y.

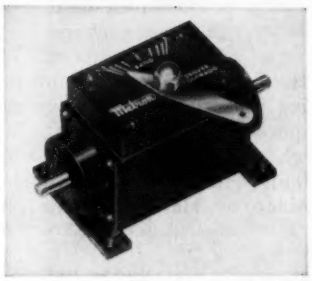
▲ For more details circle NED-263 C9 on enclosed inquiry slip ▲

PANEL SWITCH LIGHT contacts rated 5 amp at 28 v dc

Momentary snap - action and push on-push off snap action mechanisms are available in this panel switch light, designed for panel mounting. The double - pole, double - throw, double-break switch-light combination has a 28-v lamp circuit. Contacts are rated 5 amp at 28 v dc inductive. Operating pressure is about 4 lb and over-all travel is 5/32 in. Switch case is ⅞ in. in diameter, and length from mounting surface to terminals is 1⅜ in. Made by **Pendar, Inc.**, Switch Div., Dept. A, Box 3355, Van Nuys, Calif.

▲ For more details circle NED-264 C9 on enclosed inquiry slip ▲

MINIATURE SPEED CHANGER adjustable over a 25:1 range



High accuracy and repeatability are built into the Series 2 miniature adjustable ratio speed changer, supplied with either servo or foot mounts. The latter may be rotated 90 degrees in either direction. Changer has a black anodized aluminum housing and a long, easy-to-read scale. Maximum output is 0.025 hp, maximum speed is 10,000 rpm, and torque output is 5 to 40 oz-in., depending upon ratio setting. Speed is continuously variable from 1:5 up to 5:1 down. Housing length is 2⅝ in. Made by **Metron Instrument Co.**, 432 Lincoln St., Denver 3, Colo.

▲ For more details circle NED-265 C9 on enclosed inquiry slip ▲

TURRETABLE

Cuts cost of feeding parts to drill, tap, mill, punch, assemble

New concept Pneumatic Feed—indexing pawl works on *rim* of turntable, for utmost accuracy! Tapered locating pin locks table precisely in *all directions;* remains locked at all times except when actually moving to next station, even if air pressure should fail.

Fully described in Mead's complete catalog. Write today!

MEAD SPECIALTIES COMPANY

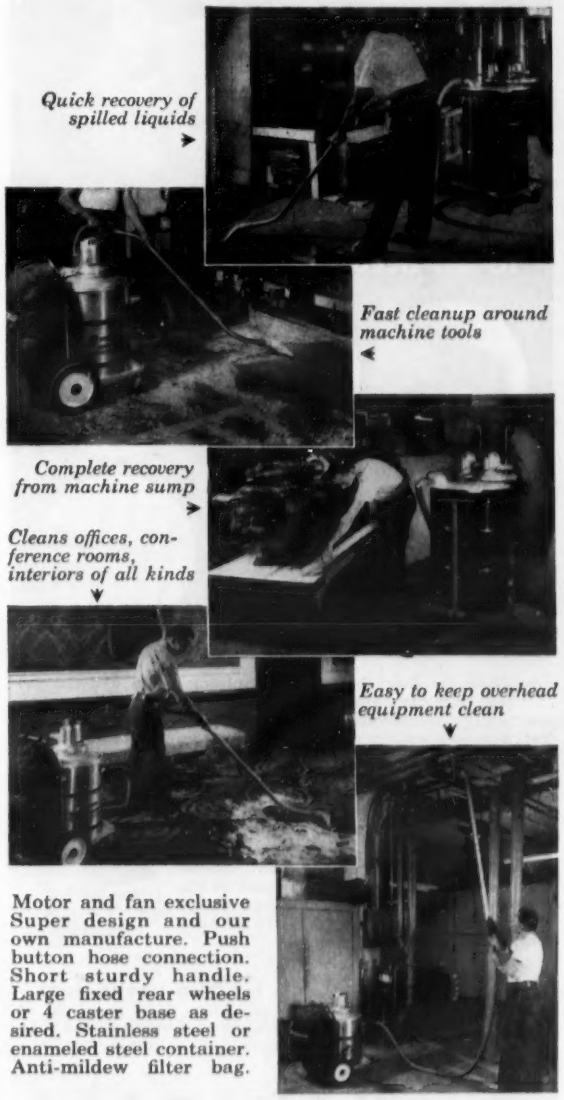
4114 N. Knox Ave., Dept. NA39, Chicago 41, Ill.

PATHFINDER IN AIR POWER AUTOMATION

▲ For more details circle NED-266 C9 on enclosed inquiry slip ▲

Cutting Cost with a Sanitary Cleaner

● There are so many cost cutting jobs you can do with this big new Super Model RS-1. Especially designed for industry, it provides quick recovery or transfer of liquids, fast pick-up of chips, debris, etc. The quick detachable head can be carried about for blowing and limited suction work. For massive pick-up through 2 in. or 3 in. hose, special cast aluminum cover for use on standard 55 gal. steel drum permits mounting two Super power heads on one drum. Write for the specifications of this amazing and versatile machine. Or ask your local Super distributor.



Motor and fan exclusive Super design and our own manufacture. Push button hose connection. Short sturdy handle. Large fixed rear wheels or 4 caster base as desired. Stainless steel or enameled steel container. Anti-mildew filter bag.

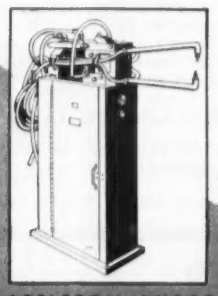
The National Super Service Company
1958 N. 12th St. Toledo 2, Ohio

"Once Over Does It"
SUPER SUCTION SERVICE®
Power Suction Cleaners • Quality Floor Machines
SINCE 1911
"THE DRAFT HORSE OF POWER CLEANING MACHINES"

▲ For more details circle NED-267 C9 on enclosed inquiry slip ▲

HANDY... any way you look at it

Ball bearing suspension ring takes all the weight and much of the work out of welding with a Miller MPS water-cooled portable spot welder. Choice of manual or air operated models, all with timers. 6" tongs secure work with pressure to 600 pounds. Model MPS-10-KVA weighs 79 lbs., welds up to 3/16" thickness; model MPS-20-KVA, 91 lbs., handles material to 1/4"; air operated models average 53 lbs. more. Wide choice of tongs.



Steel pedestals are available for both models.

miller ELECTRIC MANUFACTURING COMPANY, INC.
APPLETON, WISCONSIN

distributed in Canada by CANADIAN LIQUID AIR CO., LTD., Montreal

▲ For more details circle NED-262 C9 on enclosed inquiry slip ▲

IT'S HERE-

The specific hydraulic hose assembly, coupling or fitting for YOUR JOB

The solution of any fluid power transmission problem can usually be found in an Anchor catalog. If it isn't there, consult Anchor engineers — their years of experience will help bring you the right answer.

And remember the Anchor trade-mark always means the highest quality and workmanship!

Write for Anchor Catalog No. 575

ANCHOR COUPLING CO. INC.
366 No. Fourth St., Libertyville, Ill.
Branch Plants: Dallas, Texas — Plymouth, Michigan

▲ For more details circle NED-268 C9 on enclosed inquiry slip ▲

NIAGARA ADJUSTABLE BAR FOLDERS

make it easier to do accurate work . . . FAST!

Just slide the sheet between the folding blade and the jaw . . . and pull the handle forward. Clamping and folding are practically simultaneous. Niagara Adjustable Bar Folders are fast, versatile and rugged. Easily and quickly adjustable to desired angle of bend, width of fold and thickness of material, they're ideal for producing narrow, sharp, close and *accurate* folds, like those for lock seams. Four sizes are available for handling lengths from 21" to 42".

GET ALL OF THE FACTS on the many unique features of this profit-maker, as well as the complete Niagara line of hand and power operated folders and brakes. Write for new, illustrated Bulletin 74 today.

AIR ACTUATED MODELS, TOO! Perfect answer for faster production of narrow width work. Available in three sizes for lengths of 30" to 42".

NIAGARA

America's Most Complete Line of Presses, Shears, Press Brakes, Other Machines and Tools for Plate and Sheet Metal Work.

NIAGARA MACHINE & TOOL WORKS, BUFFALO 11, N.Y.
DISTRICT OFFICES
Boston • Buffalo • Cleveland • Detroit • Indianapolis • New York • Philadelphia
Distributors in principal U. S. cities and major foreign countries
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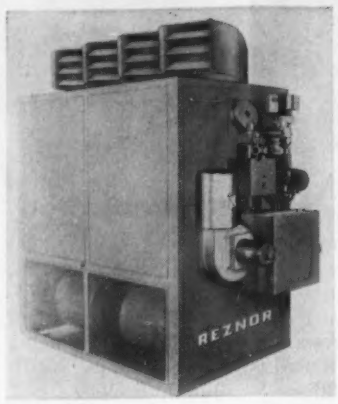
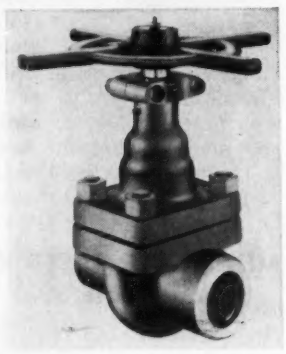
FORCED AIR HEATERS
in 400,000 to 2 million Btu sizes



Ten sizes ranging in capacity from 400,000 to 2 million Btu/hr comprise the line of Series S heavy duty forced air heaters available for gas, oil, or dual-fuel firing. Up-flow, down-flow, or horizontal installations are possible. Heaters can be used in a duct system, or with a discharge plenum having interchangeable louvered outlets. Burner assembly includes a ceramic-lined burner block, a burner ring with integral air guide vanes, and a simple electric ignition unit. A Minneapolis-Honeywell Protectorelay programs burner operation. Control system also includes a Flameguard photocell flame detector circuit. Made by **Reznor Mfg. Co.**, Mercer, Pa.

▲ For more details circle NED-270 C9 on enclosed inquiry slip ▲

FLUID VALVE
features resilient sealing unit



Positive sealing of this fluid valve is assured by its totally-confined resilient U-shaped sealing insert. Resilient Buna-N synthetic rubber molded to the wedge gate fits into the arms of the insert, applying equal pressure to all sealing points. Renewable wear rings protect the insert from abrasive materials and aid in a fluid-tight seal when handwheel pressure is exerted. The heavy malleable iron handwheel contains a built-in hammer to aid in opening and closing the valve gate and a latch to allow quick and easy removal. Bonnet can be lifted out while valve body remains in the line. Screw-end or flange-end types are available in 2, 3, and 4-in. sizes. Made by **Harrisburg, Inc.**, Box 1053, Houston, Tex.

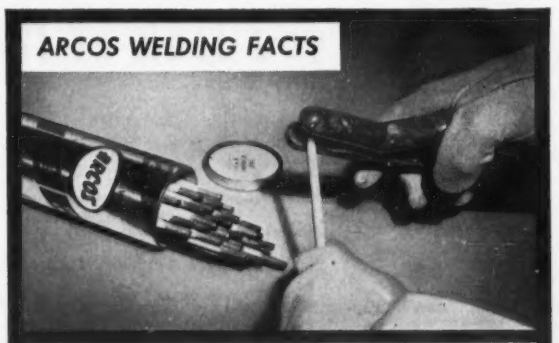
▲ For more details circle NED-271 C9 on enclosed inquiry slip ▲

The Portable Elevator

Association of Lift Truck & Portable Elevator Manufacturers—An industry-sponsored basic reference guide, 20-page booklet "The Portable Elevator for Vertical Material Handling" presents in detail what this equipment is and illustrates its advantages and applications. Selection data and a review of the available types and their features are included.

▲ For more details circle NED-272 C9 on enclosed inquiry slip ▲

ARCOS WELDING FACTS



How to Improve Stainless Welds When Using Manual Arc

Specify Arcos for the electrode that offers the proper balance of physical, chemical and metallurgical properties for the job. Besides a wide selection, Arcos rigid quality controls in manufacture assure this balance . . . that will produce sound, uniform welds time after time.

FREE STAINLESS DATA CHART

Send today for your copy of the Arcos Stainless Electrode Application Chart.

Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

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AT LAST!
PRECISION CUTTING TOOLS
DESIGNED FOR PROFESSIONALS

Get rid of clumsy, dangerous razor blades and jack-knives. Here are your kind of tools for all cutting, slicing, trimming and slitting jobs.

x-acto®
PRECISION KNIVES

A wide range of surgically-sharp, instantly interchangeable blades to fit light, medium and heavy-duty handles.

Send for knife and blade catalog.

TRY-OUT OFFER!
Aluminum knife handle and sample blade assortment.
Special Price $1.00

HANDICRAFT TOOLS, INC.
a division of
X-ACTO, INC.
48-416 Van Dam Street
Long Island City 1, N.Y.

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CUT COSTS with FIR PLYWOOD

Overlaid plywood acid tanks cost $50 less, last longer than 2" t&g lumber. Plywood lithographic etching tanks like these have been used for over 5 years at 20th Century Press of Tacoma, Washington—and are expected to last another fifteen. The tanks are lighter, stronger, easier to make—and most important, leakproof. The plastic-like high density phenolic resin overlay is fused to the panel during manufacture. It is hard, waterproof and highly acid resistant. No finish is required.

Only plywood with DFPA grade-trademarks is made and tested under industry-wide Douglas Fir Plywood Association quality control program. Look for letters DFPA on the panel.

DFPA TESTED QUALITY

Write for New File Folder Catalog

DOUGLAS FIR PLYWOOD ASSOC., DEPT. 181, TACOMA 2, WASH.

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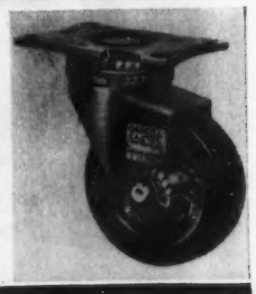
For Help in Selecting the Right CASTERS & WHEELS *for Your Needs,*

YOURS for the ASKING!
FREE MANUAL
DESCRIBING OVER 4000 TYPES

DARNELL
CASTERS AND WHEELS



If you want maximum floor protection, economy and efficiency Demand Darnell Dependability...Made to give an extra long life of satisfactory service . . . . .

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
35 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

Look in the YELLOW PAGES

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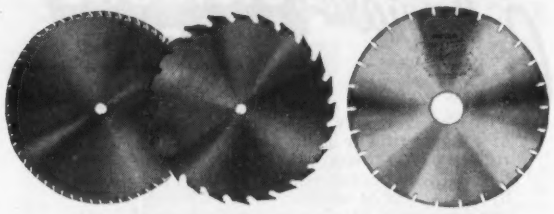
Here's a Team to Solve ALL PLASTIC CUTTING PROBLEMS



MEYCO carbide-tipped saws — Electro-Bond diamond saws

MEYCO carbide tips are diamond honed and lapped for super sharp edge . . . brazed to fine steel bodies for long life and smooth cuts. Extra quality produces extra results at no extra cost. Practically any size blade, any number of teeth, standards or specials. We'll help you solve special problems.

ELECTRO-BOND saws: Uniform sized, fine quality diamond grit, bonded to outside edge and sides in a double layer, assures smooth cuts and long life. Ideal for cutting counter abrasive plastics where heat causes delamination. No coolant required, but can be used where indicated. Particularly recommended for Fibreglas, Epon-Glas and Melanite.

Precision cutting tools since 1888. Write for descriptive literature. Ask for Bulletin No. 39

W. F. MEYERS CO., INC., BEDFORD, IND.

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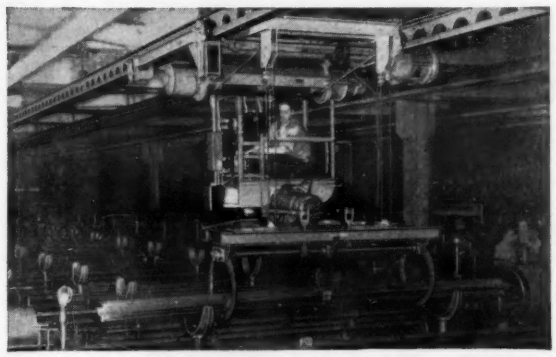
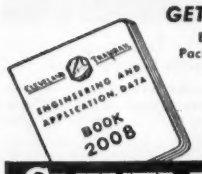


PICK UP — TRANSPORT — DELIVER
ALL OPERATIONS BY CAB OPERATOR

Pipe, rod, bars, etc., are picked up, transported and delivered with this motor-driven carrier and grab. The operator controls all motions from the cab without need of floor assistants. The carrier travels on two overhead rails. Material delivery is speeded. Floor space saved. Handling costs cut.



GET THIS BOOK! BOOK No. 2008 Packed with valuable information..

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6630 E. 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

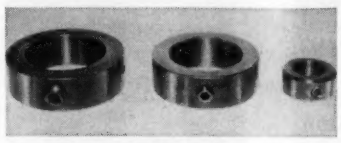
▲ For more details circle NED-278 C9 on enclosed inquiry slip ▲

TWO-WAY RADIO
Citizens' band unit has 5-w input

The G-11 Citizens' Communicator is a two-way voice transmitter-receiver and power supply in a single compact unit. Transmitter provides 5-w input. Designed for use on the 21 channel allocations within 29.96 to 27.23 megacycles, unit has crystal controlled transmitter and receiver frequencies. Operation is controlled by press-to-talk button on microphone. Unit measures 6¾ x 5¼ x 6¾ in. and has a built-in 12-v dc power supply for mobile and vehicular operation. For fixed station service, 115-v ac power supply can be specified. Antenna kits are available. Made by **Young Spring & Wire Corp.**, Gonset Div., 801 S. Main St., Burbank, Calif.

▲ For more details circle NED-280 C9 on enclosed inquiry slip ▲

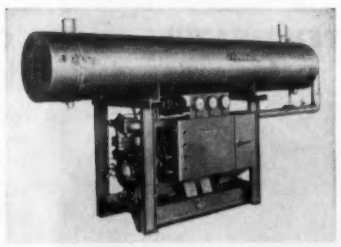
STEEL SHAFT COLLARS
all sizes have socket setscrew



Design of the socket setscrew provides this line of steel shaft collars with high holding power. Made of black penetrate finish steel, collars are offered in sizes to fit from ¼ to 3 in. shafts in 1/16-in. increments. All are made to close tolerances for various applications. Made by **Jergens Tool Specialty Co.**, 712 E. 163rd St., Cleveland 10, Ohio.

▲ For more details circle NED-281 C9 on enclosed inquiry slip ▲

WATER CHILLERS
packaged units offered in 9 sizes



Copper tubing with a star-shaped aluminum insert within the evaporator provides redesigned Type CD packaged water chillers with more than double the heat transfer surface of plain tubing. This retained feature adds 25 per cent more cooling capacity per cubic foot of chiller size. Line now includes nine sizes from 20 to 125 hp for air conditioning or industrial cooling applications. Compressor is driven directly by an electric motor through a flexible coupling. Should an abnormal condition cause the unit to shut off on any of four safety controls, an indicator light will identify the trouble source. The control panel has a handle which can be locked for tamperproof settings. Made by **American-Standard**, American Blower Div., 8111 Tireman Ave., Detroit 32, Mich.

▲ For more details circle NED-282 C9 on enclosed inquiry slip ▲

64 SIZES KRAFT CARTONS READY For SHIPPING

ESTABLISHED 1893 Campbell X

BOX & TAG CO. QUALITY PACKAGING SINCE 1893.
MAIN & NEW STREETS SOUTH BEND 23, INDIANA

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EASY TO APPLY. PLIOBOND requires no mixing, brushes on, dries rapidly.

EXCELLENT ADHESION. PLIOBOND exhibits exceptional strength—up to 1600 lbs./sq. in. in shear tests.

EXTREMELY DURABLE. PLIOBOND resists age, heat, cold, water, chemicals, oils.

Pliobond BY GOODYEAR

Pliobond—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

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DAY Pneumatic Conveying and Bulk Storage News

FREE! 2 valuable guides for selecting PNEUMATIC CONVEYING and BULK STORAGE TANKS

Whatever your pneumatic conveying or bulk storage problem, look first in these DAY bulletins. They are valuable aids in selecting and ordering the right equipment for your plant. For your free copies use reader service card of this magazine or write direct toDAY.

The **DAY** *Company*

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BULLETIN M-588—12 page DAY pneumatic conveying guide just off the press. Discusses types of systems, illustrates and diagrams high and low density arrangements, shows equipment and tells "why" and "wherefore" of all types of pneumatic conveying including so-called fluidizing systems.

BULLETIN 574—12 pages, describes horizontal and vertical storage tanks. Points out savings and is filled with photos of various installations plus description of auxiliary equipment.

EQUIPMENT ONLY OR A COMPLETE SYSTEM

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ladders for industry

• ALL-ALUMINUM
• ALL-STEEL
• FIBERGLASS

Choose from a complete line of Alco-Lite Ladders made specifically for industrial use. Easy handling aluminum step, warehouse, straight, extension, and specialty ladders. Mobile, 1 to 12 step all-steel ladder-stands. Non-conducting, non-absorbent fiberglass straight and extension ladders. Illustrated literature on request.

ALCO-LITE

Aluminum Ladder Co.
Dept. L3 Worthington, Pa.

▲ For more details circle NED-285 C9 on enclosed inquiry slip ▲

NEW! PLUG-IN ROLLER PLUNGER LIMIT SWITCH WITH Exclusive MICROMETER ADJUSTMENT

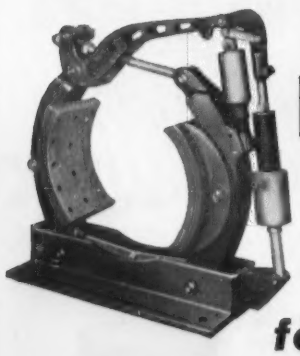
• Micrometer adjustment permits ⅛" movement of roller plunger after installation, eliminates expensive cam shimming and adjustment
• Designed for cam-type operation—not restricted to direct in-line actuator approach
• Operating direction can be changed 90°. Plunger can be set either parallel or perpendicular to base
• Oil-tight plug-in construction
• Can be wired without removing from box
• Field-proven precision switch mechanism

Write for Bulletin 9007AW. Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY

▲ For more details circle NED-286 C9 on enclosed inquiry slip ▲

Wagner now offers



AIR POWERED BRAKING SYSTEMS

for industry

Now you can get air powered braking systems with the same dependable heavy duty brakes that Wagner has built for years for hydraulically operated overhead crane brakes. These systems offer unusual flexibility of application, since any number of brakes and control points may be used at any reasonable distance from each other. Wagner application engineers can supply expert help in applying air power components for your specifications. Call your nearby Wagner branch.

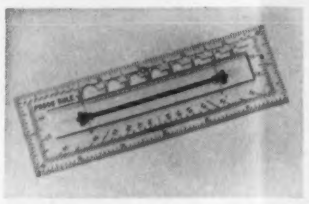
W159-2

Wagner Electric Corporation

6435 PLYMOUTH AVE. • ST. LOUIS 14, MISSOURI

▲ For more details circle NED-287 C9 on enclosed inquiry slip ▲

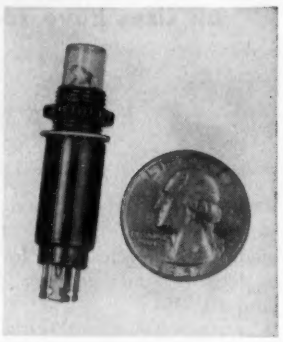
SKETCHING RULE
has circle scales and protractor



Scale on each end of the Proco rule permits accurate spacing of parallel lines. Its roller construction carries it in a straight line, keeping the edge parallel. Said to take the place of drafting tools for small drawings, the pocket-size rule includes a protractor and a template for small circles. Provision is made for making circles with radii up to 6 in. Scales on two edges are divided into sixteenths of an inch and on the other two edges, in tenths. Over-all size is 6 x 2 x ½ in. Made by **Fullerton Engineering Sales Co.**, 4623 York Blvd., Los Angeles 41, Calif.

▲ For more details circle NED-288 C9 on enclosed inquiry slip ▲

PUSHBUTTON SWITCH
miniature unit is lighted



Normally open, momentary contact Model 40-1 pushbutton switch is rated at 1 amp, 115 v ac. The miniature lighted unit has a minimum life of 500,000 operations. Its NE 2 neon bulb is independent of the switch circuit. Switch has silver contacts, solder type terminals, and anodized aluminum nut and housing. It projects less than 1¼ in. behind the panel and has a 7/16-in. diameter. Made by **Grayhill, Inc.**, 561 Hillgrove Ave., LaGrange, Ill.

▲ For more details circle NED-289 C9 on enclosed inquiry slip ▲

TEMPERATURE LIMIT CONTROL
for ovens, dryers, furnaces

Both high and low operating points of this Type MX-51R high temperature limit control are individually adjustable. Factory Mutual approved, it is designed for use on ovens, dryers, furnaces, and similar electric heating equipment. Its operating range is 50 to 650° F, with a minimum differential of 20° F. When preselected limit is reached, the sealed mercury switch opens and remains open until reset by manual knob. Contacts are rated 10 amp on 115-v ac or dc. Made by **Mercoid Corp.**, 4201 Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-290 C9 on enclosed inquiry slip ▲

SPECIAL GEAR BOXES

Announcing a new Sewall Service

Designing . . . Development . . . Manufacturing . . . to help solve your special gear box problems. We're ready to work with you at any stage of your project's development. From scratch . . . we'll design your gear boxes . . . just give us your basic idea. From your prints . . . let us submit our quotation on your requirements. We invite your inquiry . . . Check Sewall Service today.

Complete gear service . . . custom made gears . . . made-to-order sprockets . . . special gear racks —to order . . . standard gear racks in stock

E. B. SEWALL MFG. CO.
Dept. D 705 Raymond Ave.
St. Paul 14, Minn. MIdway 5-7721

SEWALL GEARS

▲ For more details circle NED-291 C9 on enclosed inquiry slip ▲

SOLVE "TOUGH" PARTS PROBLEMS

WITH Colonial's SILICONE RUBBER

There's practically no end to the usefulness of silicone rubber as a material for making rubber parts. It won't melt or harden at 700 deg. F., won't conduct electricity, is not affected by sun, water or weather, and even dry ice can't freeze it. These and many other desirable properties which can be obtained through Colonial's expert compounding, make silicone rubber the most likely material for solving your "tough" parts problems.

Whether you are designing new products, or improving existing ones, contact Colonial Rubber Company for details on the advantages of fabricating more efficiently and *profitably* with silicone rubber. Our service is complete . . . you can call on us for any one or all three of the following:

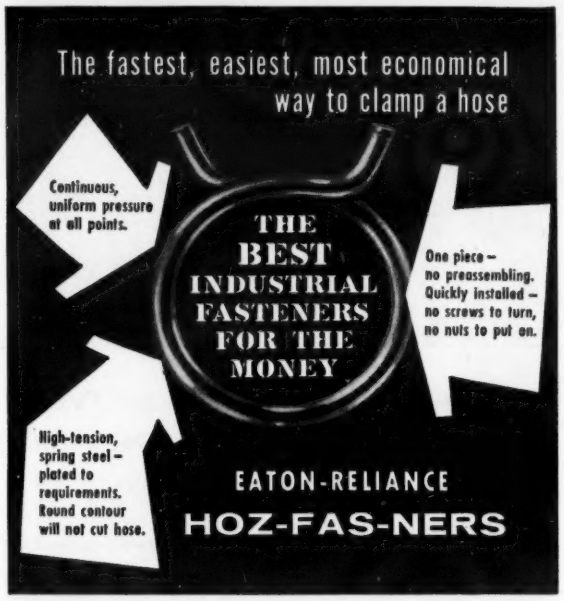
EXPERT COMPOUNDING
ACCURATE PRODUCTION
QUICK DELIVERY

1967-1

COLONIAL RUBBER CO.
RAVENNA, OHIO

▲ For more details circle NED-292 C9 on enclosed inquiry slip ▲

The fastest, easiest, most economical way to clamp a hose



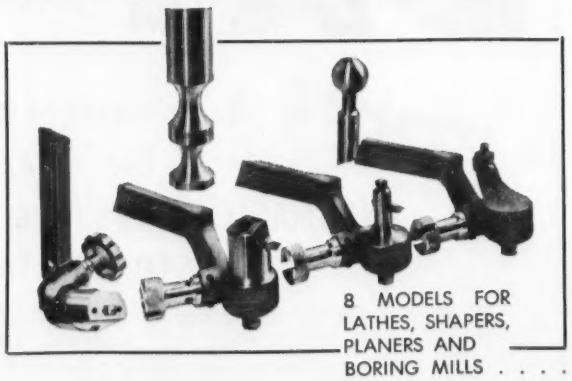
Write for Engineering Bulletin No. 1, describing the full size range of versatile Eaton-Reliance Hoz-Fas-Ners.

EATON RELIANCE DIVISION
MANUFACTURING COMPANY
509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

▲ For more details circle NED-293 C9 on enclosed inquiry slip ▲

PRECISION
SHAPLANE RADIUS TOOLS



8 MODELS FOR LATHES, SHAPERS, PLANERS AND BORING MILLS . . . .

Range: ⅜" to 3" for concave radii on lathes. Two sizes for convex radii (Balls up to 2½" dia.) on lathes. Also heavy duty model for radii to 6" on planers, etc.

Write for Circular *Patent Pending*

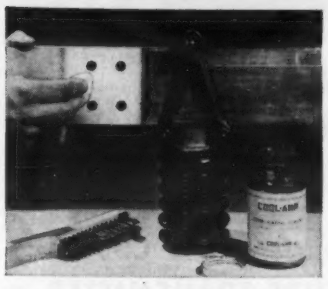
C. B. TEETER, TOOL ROOM SPECIALTIES

3443 N. Greenview Ave., Chicago 13, Ill. Phone: DRexel 3-3571

▲ For more details circle NED-294 C9 on enclosed inquiry slip ▲

SILVER PLATING

"ON THE JOB" WITH POWDER



Cool-Amp Silver Plating Powder deposits a genuine coat of silver that will not peel off, and will provide lasting protection against oxidation. It has been used extensively and is accepted as equal to electroplating for bolted and stationary contacts.

Reduces Maintenance
Saves Electricity

Cool-Amp minimizes overheating and provides cool maximum conductivity for your copper, brass or bronze contacts. Used on all current carrying connections, Cool-Amp silver plating assures long life and low maintenance and will prevent series of losses from oxidation that are too small to create noticeable heat but still accumulate into major power loss. Apply to fuse clips and blades to reduce overheating.

Cool-Amp contains no cyanide and is simple to apply. It can be used by any number of people at the same time ON THE JOB in underground vaults, sub-stations and hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND SHIPPED PREPAID
WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

The COOL-AMP Co.
Dept. ED. 8603 S.W. 17th Avenue, Portland 19, Oregon

▲ For more details circle NED-295 C9 on enclosed inquiry slip ▲

SPENCER VACUUM

Assembly and Gaging Dept., Miniature Precision Bearings, Inc., Keene, N. H.

KEEPS "WHITE ROOMS" WHITE

At plants like this, in areas where dirt and dust are strictly taboo, you'll find SPENCER vacuum cleaning systems providing *sure* sanitation.

Whether your cleanliness requirements are critical... or whether *convenience* and *economy* of maintenance are primary, you'll find a SPENCER system the answer to your needs.

Write for complete information on SPENCER installed vacuum cleaning systems or request a piping layout to meet your particular requirements.

The SPENCER TURBINE COMPANY
HARTFORD 6, CONNECTICUT

▲ For more details circle NED-296 C9 on enclosed inquiry slip ▲

If you need a
DIELECTRIC PAPER,

MOSINEE

will make it to your
EXACT SPECIFICATIONS

for complete information write
MOSINEE
PAPER MILLS COMPANY
Mosinee, Wisconsin

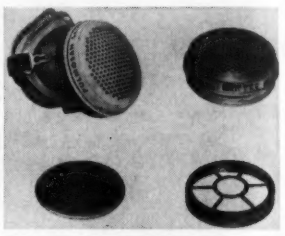
▲ For more details circle NED-297 C9 on enclosed inquiry slip ▲

COIN CHANGEMAKER
for dimes and quarters

Two dimes and a nickel for a quarter and two nickels for a dime are dispensed by the Model A Changemaker which holds $60 worth of nickels and dimes. Machine has a cast aluminum cabinet and contains two ABT rejectors for slugs. Mounting holes on back and bottom permit attachment to any wall or stand near vending machines, pay telephones, or other coin-operated devices. List price is $125. Made by **L. F. Grammes & Sons, Inc.**, Allentown, Pa.

▲ For more details circle NED-298 C9 on enclosed inquiry slip ▲

RESPIRATOR
features interchangeable filters



Single filter retaining cup of the C-200 Series respirator is equipped with interchangeable filters which suit it for use where various dusts (including radioactive), mists, organic vapors, paint spray, ammonia, acid gases, and other hazards are prevalent. The lightweight, easy-to-wear unit has an aluminum face-fit body, molded rubber face cushion, intake and exhalation valves, and double elastic headband. Various filters available are approved by the U. S. Bureau of Mines and accepted by the U. S. Dept. of Agriculture. Made by **Pulmosan Safety Equipment Corp.**, 644 Pacific St., Brooklyn 17, N. Y.

▲ For more details circle NED-299 C9 on enclosed inquiry slip ▲

SAFETY DISPENSING JUGS
in 2 and 5-gal capacities

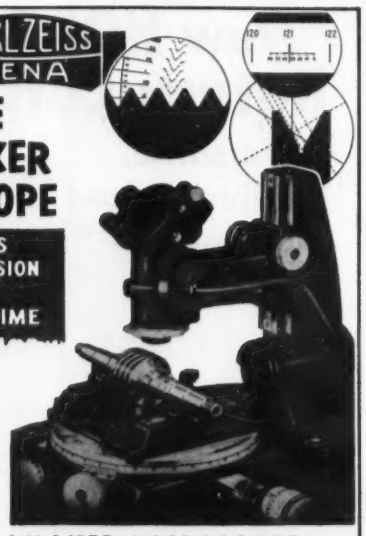
Among safety features of these 2 and 5-gal all-plastic dispensing jugs or carboys is a 5/8-in. spout which is fitted with a plug permanently attached to the container. Top and bottom handles assure safe, easy handling. The 5-gal jug has a polyethylene screw closure; the 2-gal carboy, a 100-mm phenolic closure with 3½-in. mouth opening. Both jugs can be used for storing and dispensing corrosive liquids. Made by **Nalge Co.**, Box 365, Rochester 2, N. Y.

▲ For more details circle NED-300 C9 on enclosed inquiry slip ▲

NEW CARL ZEISS JENA

LARGE TOOLMAKER MICROSCOPE

...PRODUCES HIGHEST PRECISION ....CUTS INSPECTION TIME



At Last... available again the ORIGINAL CARL ZEISS JENA

New Type
LARGE TOOLMAKER MICROSCOPE

... **actually measures** (not only compares drawings or shadows) any type of work for shape, angles in degrees and minutes, radii, distances between holes, tapers, spacings, width of keyways and splines, graduations, thread check for angle of flank in minutes, lead and pitch errors of taps, chasers, hobs, cutters and other irregular work **which cannot be checked in any other way.**

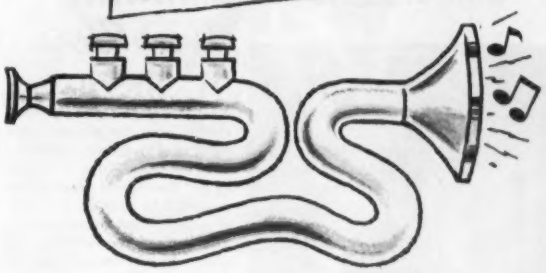
RANGE: 6" x 2" — BUILT-IN ROTARY TABLE (11" Diameter) thru 360°

GET THE FULL STORY OF THE VERSATILITY OF THIS OUTSTANDING SHOP AID — Request Circular

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
WEST COAST BRANCH: SCHERR-TUMICO CO. - 3337 W. Olympic Blvd. - Los Angeles 19, Cal.
200 ND LAFAYETTE STREET • NEW YORK 12, N. Y.

▲ For more details circle NED-301 C9 on enclosed inquiry slip ▲

SWEET MUSIC



The results will be sweet music to your ears when you bend and fabricate those tubes on LEONARD BENDMASTER and LEONARD TUBEMASTER machines.

Send for our horn-tooting details!

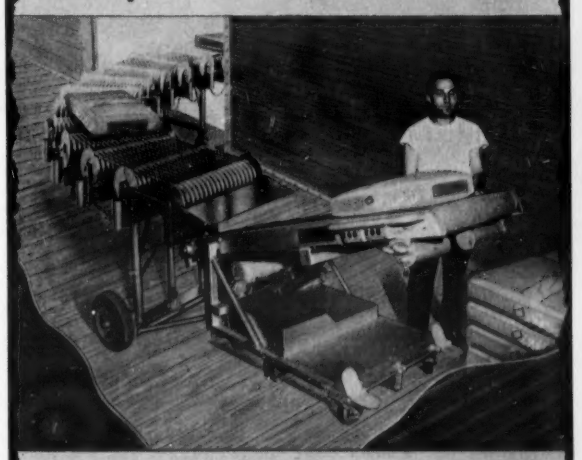
Do it Today!

LEONARD
PRECISION PRODUCTS CO.
9200 BOLSA AVE.
SANTA ANA, CALIFORNIA

▲ For more details circle NED-302 C9 on enclosed inquiry slip ▲

One-Man Loading for Box Cars and Trucks Is Now Possible in Bagged Shipment Plants

New Power-Curve Swivel Stacker & Loader Shoots Bags into Place, Replaces Slow Hand Truck



The Power-Curve Swivel Stacker and Loader at a large chemical plant uses but one operator who merely guides bags a little with one hand as they stream into the car direct from the Packer. The single operator replaces a crew of three.

(Special)—The latest in bag loading techniques is now being demonstrated to industrial producers who are fed up with the slow, old-fashioned hand wheel truck. A single conveyor-stacker system conveys the bags all the way from the packing machine and speeds up the loading, delivers cleaner, neater bags, reduces in-transit losses, and recovers spillage and loose material within the plant. The Power-Curve system is able to amortize its entire cost in less than a year.

In U.S. and Canadian industrial plants today there are in daily use 358 Power-Curve units, including 133 Packer and transfer conveyors, 84 bag flatteners and elevators, and 141 box car and truck loaders. Virtually every type of operation is represented in the list of Power-Curve owners, with new additions every month.

Backing up the news of the money saving new system is a network of Power-Curve representatives in all areas equipped with sound movies in color showing actual handling operations and the effortless loading of the new swivel stacker.

For complete details write the Engineering Sales Division

POWER-CURVE
CONVEYOR COMPANY
2185 SOUTH JASON ST., DENVER 23, COLORADO

▲ For more details circle NED-303 C9 on enclosed inquiry slip ▲

HEAR every word on the TELEPHONE

with a BURGESS-MANNING "Hear-Here" Booth

Now you can hear every word clearly over the phone—even right next to a noisy machine. Burgess-Manning "HEAR-HERE" Booths are acoustically designed to provide an "isle of quiet" in the noisiest place. Ideal for manufacturing areas, hotels, stores, depots, shipping rooms, etc.—a model especially suited to each location.

Different in many ways:

- No Noise—always quiet
- No Doors—always fresh air
- No Corners—to collect dirt
- No Glass—to break

Write for Catalog - Bulletin A-142-2D

PERFORMANCE GUARANTEED

Architectural Products Division of BURGESS-MANNING COMPANY

5970 Northwest Highway, Chicago 31, Illinois

Manufacturers of 3-Way Functional Ceilings and Acousti-Booths for Telephoning

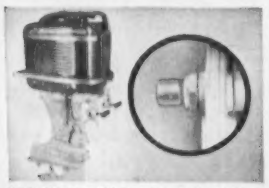
▲ For more details circle NED-304 C9 on enclosed inquiry slip ▲

which CaPlug will protect your product best?

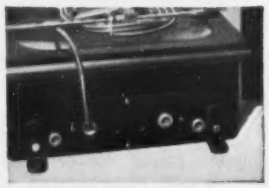
write for this free sample kit and see!

WANT TO SEAL OPENINGS IN A JIFFY?
Tapered (non-threaded) CaPlugs can be used as caps or plugs, inside and outside of threaded or plain fixtures. Just push them on . . . or push them in. Costing less to buy, these versatile closures cost less to apply. Time studies show that tapered CaPlugs save up to 500% in labor costs.

WANT TO KEEP FITTINGS UNDER WRAPS?
See how CaPlugs seal out dust and protect fittings of this refrigeration valve during shipment. Says Automatic Machine Products Sales Co., "CaPlugs are easy to install and afford the protection we desire." With ten standard styles stocked in over 500 sizes, CaPlugs are promptly available for nearly every closure need.



WANT TO PROTECT DELICATE THREADS?
Kiekhaefer Corp. guards the threads on the "Ride Guide" steering controls of its Mercury outboard motor with threaded style CaPlugs which the customer can reuse when storing motor. Made of tough, flexible Polyethylene, CaPlugs are kind to threads and polished surfaces — will not collapse, chip, break or shred.



WANT TO ADD SALES APPEAL?
Colorful CaPlugs spruce up your product and reflect the care you have taken to keep delicate systems free of dirt and moisture. This Bristol air control instrument is a good example. Says The Bristol Company, "They are sturdy enough so that they are not accidentally dislodged, but are still easily removable."

MAIL THIS COUPON FOR FREE CAPLUG SAMPLE KIT WITH DESCRIPTIVE LITERATURE AND PRICES

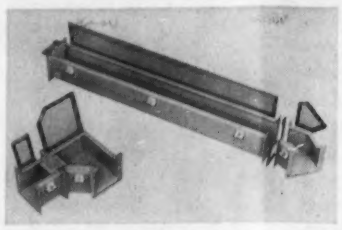
CAPLUGS DIVISION,
PROTECTIVE CLOSURES CO., INC.
2209 Elmwood Ave., Buffalo 23, N. Y.

RUSH a free CaPlug sample kit, literature and prices to us, without obligation.

NAME TITLE
FIRM
ADDRESS
CITY ZONE STATE

▲ For more details circle NED-305 C9 on enclosed inquiry slip ▲

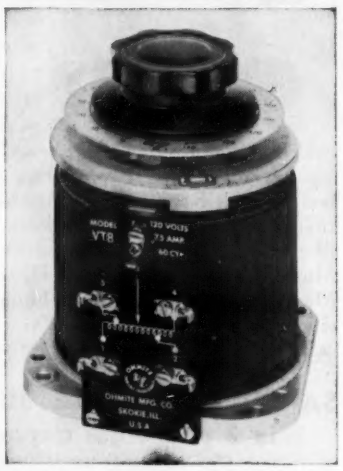
OIL-TIGHT WIREWAY
wires can be laid in the full length



Electrical wires housed in Hoffman lay-in wireway and fittings are protected against oil, dust, coolants, and water. Wires can be laid in along an entire wireway run. Ends of the sections are flanged on three sides, and a neoprene gasket is placed between the flanges when pieces are bolted together. A gasketed sealing plate is screwed tightly in place at top of each joint. Covers are gasketed and held down on trough bodies by hinges and screw clamps. Standard wireways are made of 14-gage steel and measure 2½ x 2½, 4 x 4, 6 x 6, and 6 x 12 in. Straight sections are from 6 to 10 ft long. They are finished in a gray prime coat over a phosphatized surface. Made by **Hoffman Engineering Corp.**, 919 Tyler St., Anoka, Minn.

▲ For more details circle NED-306 C9 on enclosed inquiry slip ▲

VARIABLE TRANSFORMERS
3.5 and 7.5-amp models offered



Added to the recently announced 1.5 amp Model VT2 variable transformer are 3.5 - amp VT4 and 7.5 - amp VT8 Models. All variable transformers are interchangeable mechanically and electrically with other comparable makes. Adjustable shaft allows table or panel mounting. Positive current transfer is by means of a shunt pigtail from brush to slip spring. Direct reading dials are calibrated on one side for overvoltage connection and on the other for normal line connection. Made by **Ohmite Mfg. Co.**, 3680 Howard St., Skokie, Ill.

▲ For more details circle NED-307 C9 on enclosed inquiry slip ▲

Packaged Fans & Blowers

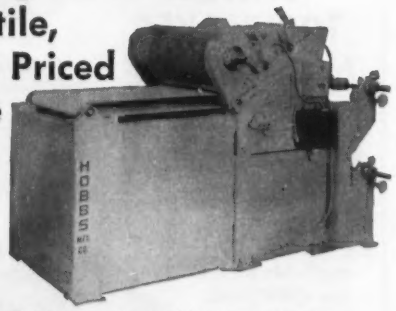
McLean Engineering Laboratories—Packaged fans, blowers, and accessory equipment used for cooling of electronic or electrical apparatus are described in detail in illustrated 36-page catalog. It shows ready-to-use cabinet cooling units available in panel heights from 1¾ to 10½ in. Air deliveries range from 100 to 1200 cfm.

▲ For more details circle NED-308 C9 on enclosed inquiry slip ▲

613-S

New HOBBS Rotary Cutter

A Versatile, Medium Priced Machine



This latest addition to the Hobbs line of cutters, slitters and winders will cut from independent rolls or in synchronization with other machines. It is available in widths from 24 to 60 inches and provides infinitely variable cutoff lengths from 2 to 60 inches, at speeds up to 50 cuts per minute.

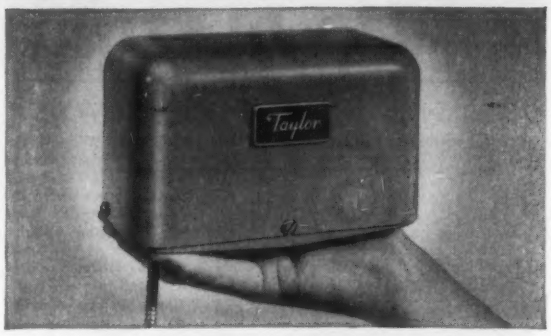
Longitudinal slitting device is optional and accessory equipment includes unwinding stands, run-out conveyors and stackers. Price, without accessories — $5000. to $9000., depending on width of unit.

HOBBS Manufacturing Company
41C Salisbury St., Worcester 5, Mass.
EST. 1888

Branch offices and Sales representatives in Irvington, N. J., Cleveland, Chicago, Greenville, Louisville, Toronto and other major cities

WINDERS • HAND & POWER SHEARS • SLITTERS
DIE PRESSES • ROTARY & AUTOGIL CUTTERS

▲ For more details circle NED-309 C9 on enclosed inquiry slip ▲



NEW Taylor LOW COST TEMPERATURE TRANSMITTER

The new Taylor SENSAIRE* Pneumatic Transmitter provides low cost temperature measurement within limits of minus 30°F. to plus 1200°F. with simplified adjustments, excellent repeatability and unusually fast response. Available in range spans of 50°F., 100°F., 200°F., and 400°F.

Sturdy, compact, force-balance, with mercury-filled thermal system, the SENSAIRE Transmitter is temperature compensated. Factory calibrated accuracy is well within 1% of rated range below 550°F.; 1½% above 550°F.

Write for SENSAIRE Bulletin 98293. Taylor Instrument Companies, Rochester, N.Y., or Toronto, Ont.

*Trade-Mark

Taylor Instruments MEAN ACCURACY FIRST

▲ For more details circle NED-310 C9 on enclosed inquiry slip ▲

WHEREVER SOMETHING STICKS You'll Find A Use For

IMS SILICONE FLUID SPRAY

ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING

And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

Handy Self Dispensing Can

Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can..... $2.00
Per Unbroken Dozen..... $18.00
Per Unbroken Gross.... $197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE RD. CLEVELAND 20, O.

▲ For more details circle NED-311 C9 on enclosed inquiry slip ▲

STANDARD OF ALL INDUSTRIES

Coffing "Safety Pull" Ratchet Lever Hoists

"Safety Pull" hoists are built to withstand years of hard use. Safety features include the ratchet-and-pawl construction, which assures that the load is always under positive control, and the "safety valve" handle which bends before any load-bearing part can fail. Every hoist is severely tested to assure absolutely safe operation at full load.

Fourteen models ranging in capacity from ¾ ton to 15 tons are available. For full information, consult your distributor or write for Bulletin SP. *Coffing Hoist Division, Duff-Norton Company, 803 Walter Street, Danville, Illinois.*

▲ For more details circle NED-312 C9 on enclosed inquiry slip ▲

new nyflex

FLEXIBLE GEAR COUPLINGS WITH NYLON SLEEVES

A sleeve weighing only four ounces, an entire assembly weighing only 3½ lbs.! The lightest, most compact flexible gear coupling yet! Never needs lubrication; takes almost 5° misalignment; operates to 150°F; wide range of capacities and speeds. The most important advance in couplings since Sier-Bath's flangeless design! Ten bore sizes available now from stock. Write for Bulletin N 1.

- ▶ No lubrication required
- ▶ Takes more misalignment than standard couplings
- ▶ Use horizontal or vertical
- ▶ Weighs only 3½ pounds
- ▶ Low in price
- ▶ Speeds to 5000 rpm
- ▶ 1⅝" max. shaft capacity

Sier-Bath GEAR and PUMP CO., Inc.
FLEXIBLE COUPLING DIVISION
9242 Hudson Blvd., North Bergen, N. J.
Founded 1905 Member A.G.M.A.

▲ For more details circle NED-313 C9 on enclosed inquiry slip ▲

Look to LINK-LOCK* for pressure-tight sealing

*Now Available with Spring Action for greater mounting flexibility and automatic take-up... where desired.

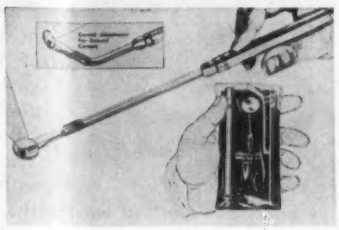
Here's a positive-locking fastener you can use wherever preloaded closure is desired. Heavy pull-down pressure insures water-tight sealing when gaskets are used. Offered in three sizes, LINK-LOCK is compact, simple in design, economical. Open or closed, it always lies flat. Provides excellent impact and drop-test resistance, is trouble-free even at −70° F. A natural for instrument cases, storage boxes, etc. Write for samples and 40-page catalog.

SIMMONS FASTENERS
Quick-Lock · Spring-Lock · Rote-Lock · Link-Lock · Dual-Lock · Hinge-Lock

SIMMONS FASTENER CORPORATION
1793 North Broadway, Albany 1, N. Y.

▲ For more details circle NED-314 C9 on enclosed inquiry slip ▲

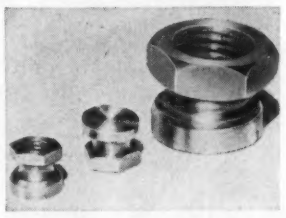
INSPECTION LIGHT KIT for examining holes, tubes



The Conduct-A-Lite pocket flashlight and inspection kit simplifies examination of hard-to-reach areas around corners, in holes and in tubes. Kit consists of an aluminum pocket flashlight with pen-lite batteries, 6-in. Lucite light conductor, 4-in. light conductor with 24-degree curve, and choice of ½, ⅝, ¾, ⅞, 15/16, and 1-in. clip-on mirrors. This $4.95 kit is packaged in a plastic case that fits into a shirt pocket. Offered by **Foster Supplies Co.**, 6122 Milwaukee Ave., Chicago 46, Ill.

▲ For more details circle NED-316 C9 on enclosed inquiry slip ▲

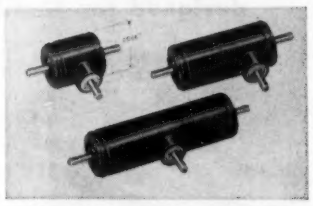
TOGGLE PADS permit clamping on angular surfaces



Line of toggle pads for truing up all clamping on irregular and angular surfaces features true-center holding constant at all points of oscillation within 20 degrees in all directions. Toggle pads incorporate a fixed point in the nut which slides around the contour of a convex spherical section in the pad to provide controlled oscillation. Oscillation of the nut in no way disturbs location of the pad, and true alignment is constantly maintained for quick setups. Wide range of sizes is offered. Made by **Jergens Tool Specialty Co.**, 712 E. 163rd St., Cleveland 10, Ohio.

▲ For more details circle NED-317 C9 on enclosed inquiry slip ▲

ANGLE & T-DRIVES 1:1 ratio units for cramped spaces



Up to 24 oz-in. of torque can be handled at speeds up to 10,000 rpm by Series 12 angle and T-drives. The 1:1 ratio units are suited for cramped space use where power up to 0.025 hp must be transmitted at right angles. They may be integrally combined with any Metron miniature speed reducer, or used between two or more of these speed reducers, thus permitting take-off with different speed reductions. Black anodized aluminum cases have Size 11 servo mounts. Other types of attachable mounts are available. The 3/16-in. stainless steel shafts run on heavy duty ball bearings. Made by **Metron Instrument Co.**, 432 Lincoln St., Denver 3, Colo.

▲ For more details circle NED-318 C9 on enclosed inquiry slip ▲

For those who demand the finest!

Engineered with the precision of a fine Swiss watch by Scintilla, Ltd. of Switzerland, the LESTO is the ultimate in reciprocating electric handsaws. The number of blade strokes is scientifically set to obtain maximum efficiency in cutting wood, plastics, metal and hard-to-cut materials. A new gear makes greasing necessary only when carbon brushes are replaced. Service and parts available throughout the U. S.

LESTO
model GE/UHS - $99.50

Sole U. S. importer of
LESTO "SWISS MADE" SAW BLADES

For further information and literature, see your dealer or write:
VICTOR J. KRIEG, INC.
Precision-made power tools of unsurpassed performance
611 BROADWAY, NEW YORK 12, N. Y.

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For more reliable soldering and less down time by skilled or unskilled workers

NEW Weller® SOLDERING IRONS

★ with built-in MAGNASTAT temperature control

... automatically maintains correct soldering temperature

Newest soldering development! Controlled temperature iron never overheats. Minimizes tip redressing. Reaches full heat quickly. Operator benefits include . . . only half the weight of uncontrolled irons; handle stays cool. Sensing device is in the Magnastat Wellertip. These advantages mean less down time and more reliable soldering for all production line employees.

3 models cover all electrical soldering requirements. All models have 3-wire plug. Send for folder.

WELLER ELECTRIC CORP. 601 Stone's Crossing Rd. Easton, Pa.

▲ For more details circle NED-319 C9 on enclosed inquiry slip ▲

Engineers compare the high quality and contrast of an 11"x17" stock print reduced from an original 22"x34" drawing. The print is a sample of many run off on an offset duplicator from an inexpensive offset paper master prepared xerographically by XeroX Model 1218 copying equipment.

thanks to XEROGRAPHY...

Stock-Print System Saves

Cutler-Hammer Inc. $50,000 Yearly

Adoption of a stock file system of expendable engineering prints is saving Cutler-Hammer Inc., Milwaukee, $50,000 a year.

The system, and consequent savings, is made possible by XeroX® Model 1218 copying equipment. This equipment, operating by xerography, the clean, fast, dry, electrostatic copying process, reduces original drawings as large as 24"x36" onto inexpensive offset paper masters. From them, multiple copies for stock-print filing are quickly run off on an offset duplicator.

J. E. Jones, head of the Cutler-Hammer drafting department, sums up other benefits this way:

"Xerography and offset duplicating have brought about valuable changes in our print storage and distribution. We can now reduce print sizes of B, C, and D drawings, thereby saving time, space, materials, and hand folding. Better service to departments needing prints has resulted. Wear and tear on our drawings has been reduced, and xerography gives us higher quality, high contrast, sharp, permanent prints.

"This system allows us to issue prints without delay. Reference prints are immediately available from the expendable print files. Trained personnel are not required to wait for print service. Expendable prints can be discarded after use. They need not be re-filed."

XeroX Model 1218 copying equipment can help you, too. Write for proof-of-performance folders showing how firms of all kinds and sizes are speeding paperwork and saving thousands of dollars yearly by xerography.

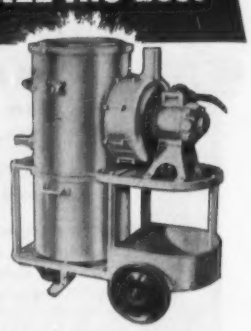
HALOID XEROX INC.
59-206X Haloid St., Rochester 3, N. Y.
BRANCH OFFICES IN PRINCIPAL U. S. AND CANADIAN CITIES
Overseas: Rank-Xerox Limited, London, Eng.

HALOID XEROX®

▲ For more details circle NED-320 C9 on enclosed inquiry slip ▲

From Overhead to Underfoot

INVINCIBLE Vacuum Cleaners get ALL the dust



MODEL 450—1½ H.P.

● Invincibles rapidly remove all industrial dirt and litter, with less labor and at less cost. Even hard-to-reach spots are readily cleaned with attachment tools. Such complete cleaning insures better working conditions and less "dust-damage" to equipment and product. Thus Invincibles quickly pay for themselves. *Send for illustrated booklet.*

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

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no need to design new RUBBER molds and dies!

choose from Atlantic India's

thousands of rubber molds and dies

A 39 year accumulation of molds and dies are now on hand at Atlantic India, ready to serve you. Chances are one of our standing molds or dies will fit your needs.

If it happens that your application calls for a unique rubber product we have years of "know-how" at your command. What ever your need, washers, gaskets, molded parts, extrusions, sheet or sponge rubber, Atlantic India is ready to serve you.

SEND TODAY!
Catalog No. 52
185 pgs. showing thousands of diagrams

Atlantic India Rubber Wks., Inc.
Producers of the AIRWIN line of Rubber Products
573 West Polk St., Chicago 7, Illinois

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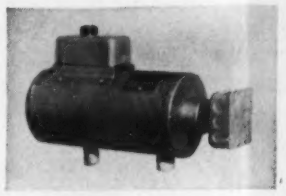
OIL & WATER HEATERS
for process tanks, kettles, lines



Packaged circulation heaters for rapid heating of oil, water, and various gases have indicating or nonindicating thermostats for control up to 550° F. They are designed for use with tanks, kettles, fuel oil lines, gas heating equipment, heat exchangers, and various types of process equipment. Absence of return bends assures interrupted flow of liquid at desired velocity. Heaters have welded and insulated companion pipe assemblies and multitube flanged immersion heater units. Outside casing has mounting tabs and a 6-in. square terminal box. Units for various wattage and voltage requirements are offered. Made by **Trent, Inc.**, 211 Leverington Ave., Philadelphia 27, Pa.

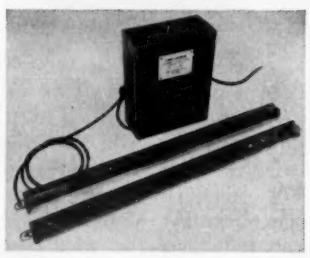
▲ For more details circle NED-323 C9 on enclosed inquiry slip ▲

STACKING CONVEYOR
for angles up to 60 degrees

Cartons can be hand stacked up to 16 ft above the floor after being conveyed up this 12-ft conveyor that has a working angle up to 60 degrees. The Steep-Grade conveyor, suited for use in restricted spaces and narrow aisles, is equipped with swiveling casters and electric motor drive. Price is $548. Made by **New London Engineering Co.**, Dept. SG, New London, Wis.

▲ For more details circle NED-324 C9 on enclosed inquiry slip ▲

STATIC ELIMINATOR
designed for textile machine use



Improvements incorporated in this British-made Lance textile static eliminator assure efficient operation. Square shape permits the yarn sheet to come close to the electrode head without damage, and full length slot creates a continuous bar of ionized air that insures that all yarn ends get equal relief. Unit consists of a power supply and three stainless steel bar assemblies. Maximum of 2 ma current assures safety to operator. Distributed by **Lindly & Co.**, 248 Herricks Rd., Mineola, N. Y.

▲ For more details circle NED-325 C9 on enclosed inquiry slip ▲

8 TYPES

Eight *standard* types that is—which means you can get exactly the jib crane best suited for your particular jobs . . . at lowest possible cost!

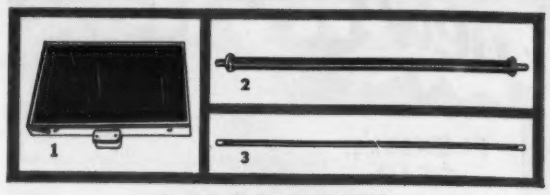
Tell us your requirements and we'll make suggestions for most economical application!

Ask for CATALOG J-114

ABELL-HOWE COMPANY
7747 W. VAN BUREN ST.
FOREST PARK, ILL.

▲ For more details circle NED-326 C9 on enclosed inquiry slip ▲

HEAT SOURCES



3 GLASS UNITS
FOR YOUR PROCESS OR PRODUCT

1. PYREX BRAND RADIANT PANEL—Durable flat glass, coated with a material that conducts electricity, serves as area source of uniform heat. Long wave output readily absorbed by all colors. In squares and rectangles; up to 15 watts per sq. in. Complete—panel, mounting frame, reflector, hangers, junction box, leads. Ask for Bulletin PE-60.

2. HEAT SHEATH—Resistance wire element is enclosed in VYCOR brand glass tubing that's immune to thermal shock. Red or clear tubing, ⅝" O.D. Attractive, safe, easy to keep clean. 500 watts per linear foot. Ask for details.

3. HOT ROD—New, very unusual. Glass rod ¼" in diameter has fired-in coating that conducts electricity. Output is 50 watts per 6 inches of rod. Inquiries invited.

CORNING GLASS WORKS
56 Crystal Street, Corning, New York
CORNING MEANS RESEARCH IN GLASS

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PORTER PORTABILITY

CUTS METAL CUTTING COSTS!

HKP® PORTER CUTTERS

The "take it to the job" feature of PORTER CUTTERS makes them an absolute must in modern production, maintenance, service and materials handling operations! And you save time, labor, and money, too, with these powerful metal-cutters! There are over 100 different PORTER CUTTERS — HAND and POWER-OPERATED — that will cut just about any soft, medium hard, or hard metal you can name!

WRITE FOR YOUR FREE PORTER CATALOG TODAY!

See Your Industrial Supply Distributor For Prompt Service.

CUT — up to ¾" rods with HAND OPERATED TOOLS — up to 1⅜" rods and 2½" power cable with POWER OPERATED TOOLS.

H.K.PORTER, Inc.
Somerville 43, Mass.

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How To Get Things Done

BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spotlighted in color. You see what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Complete Price $49.50 Including Cards

FREE 24-Page Illustrated Booklet N-400 Mailed Without Obligation

GRAPHIC SYSTEMS
55 WEST 42ND STREET
NEW YORK 36, N. Y.

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So many ways the *FISHER/MAN* can give you a helping hand with the

WIZARD II
PRESSURE CONTROLLERS

- Two Position Controller
- Proportional Controller
- Proportional Controller —Remote Set
- Differential Proportional Controller
- Pressure Transmitter
- Differential Proportional Controller—Remote Set
- Proportional Reset Controller
- Differential Proportional Reset

This "Jack of ALL Trades" is surprisingly low in cost

The partial list of applications at left tells you why the Wizard II is so aptly named. Probably no other controller in the Fisher line is as versatile. Available in brass, steel or stainless steel Bourdon tubes for ranges from 25 to 10,000 psi. Brass or stainless steel bellows available for low pressure service from 30" Hg Vacuum to 30 psi. Write for Bulletin D 4150 A.

IF IT FLOWS THROUGH PIPE ANYWHERE IN THE WORLD . . . CHANCES ARE IT'S CONTROLLED BY . . .
FISHER GOVERNOR COMPANY
Marshalltown, Iowa / Woodstock, Ontario / London, England
CONTINENTAL EQUIPMENT CO. DIVISION, Conoposis, Pennsylvania

FISHER Controls SINCE 1880

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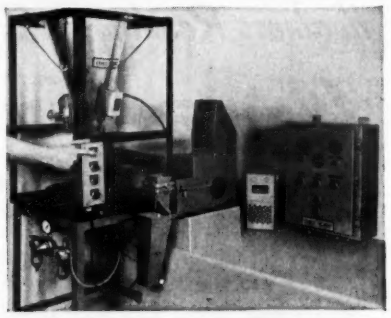
EXACT WEIGHT

Precision Automatic



NET WEIGHING MACHINE

Model 4601NW for weighing any dry, free-flowing material offers accuracies of 1/10 gram on quantities below 10 grams and one percent accuracy on quantities of 10 grams and above. Unit combines a high-accuracy Shadograph Scale, air-operated dump mechanism, hoppers, vibratory feeders and photoelectric controls. Models available with capacities from 50 grams to 500 grams. Write for Bulletin 3363.

Find us in your local 'Yellow Pages'

THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: 5 Six Points Road, Toronto 18, Ont.

BETTER QUALITY CONTROL...BETTER COST CONTROL

▲ For more details circle NED-331 C9 on enclosed inquiry slip ▲

KLIXON
MOTOR PROTECTORS guard against costly burnouts in GOLF SILENTIUM pumps made in Denmark

The H. HOLLESENS Pump Works of Copenhagen, Denmark, long a user of KLIXON protected single-phase motors, is the first manufacturer in Europe to specify KLIXON three-phase inherent protectors in its product line.

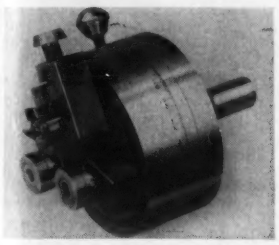
Here's what Mgr. Jorgen Aabye, says: *"In our silent circulating pumps for central heating, for garbage grinders and domestic water supply systems, we have for years guarded against motor burnouts with* KLIXON *Protectors — first in single-phase motors — now also in our three-phase equipment. The results have been excellent."*

You, too, can get maximum overload capacity with dependable overtemperature protection in the motors that operate your equipment — just specify and use KLIXON inherently protected motors. New Bulletin PR 1243 available on three-phase motor protection.

METALS & CONTROLS CORPORATION
Spencer Division 3303 Forest Street, Attleboro, Mass.
KLIXON

▲ For more details circle NED-332 C9 on enclosed inquiry slip ▲

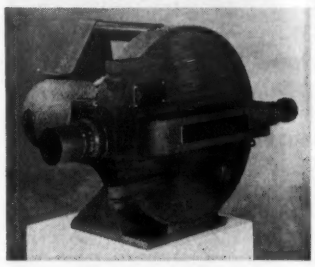
ADJUSTABLE TURNING HEAD
for screw and other machine tools



Four - lip cutter of this Master Turner turning head assures high production on screw machines and other similar equipment. If one tip burns out, it can be indexed to the next cutting position by loosening a single screw. Supporting rollers can be adjusted ahead or behind the cutter, and a graduated dial facilitates setting. Ring cam adjusts rollers and cutters to desired diameter. Various sizes are available from **Patt Brothers Co.**, 37645 Vine St., Willoughby, Ohio.

▲ For more details circle NED-333 C9 on enclosed inquiry slip ▲

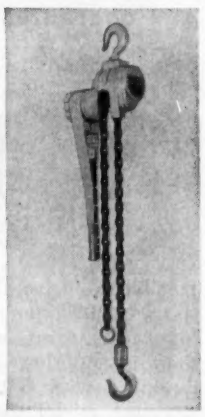
HIGH SPEED CAMERA
takes 150 to 6000 frames/second



Capable of stopping motion too fast for the human eye to see, Model WF-3T Fastax high speed motion picture camera has a high-index glass, two-sided prism shutter, and a new drive mechanism. This 16-mm camera will take 150 to 6000 pictures per second, recording action on film for later projection at 16 frames per second for analysis and study. It uses 100-ft daylight loading spools and features view finder, timing light, and cut-off switch. Made by **Wollensak Optical Co.**, Dept. FA-3, 850 Hudson Ave., Rochester 21, N. Y.

▲ For more details circle NED-334 C9 on enclosed inquiry slip ▲

LEVER-OPERATED HOIST
3/4, 1 1/2, and 3-ton models added



Added to the Tugit line of toolbox size 1 and 2-ton lever-operated hoists are 3/4, 1 1/2, and 3-ton models. Line now provides a size for any kind of pulling, stretching, or lifting job up through 3 tons. Hoists are built with gearing and load brake instead of the usual long ratchet lever and pawl. They operate in close quarters and allow accurate load spotting. Features include full-swiveling upper and lower hooks, link type alloy steel chain, and built-in free-wheeling device for quick positioning of lower hook. Made by **Manning, Maxwell & Moore, Inc.**, Shaw-Box Crane & Hoist Div., Muskegon, Mich.

▲ For more details circle NED-335 C9 on enclosed inquiry slip ▲

electric motion control IDEAS

automatic
drag brake

for intermittent use

Do you have the problem of putting constant or variable tension on material in process—or a compensating drag load on shafts or spindles? A Warner electric brake will produce intermittent slippage and perform these functions automatically. The electromagnetic principle solves any problem of actuation, and a simple potentiometer control permits you to modulate torque output steplessly for producing exactly the right slippage for any job. Write for Catalog No. 6292.

WARNER **Warner Electric Brake & Clutch Co.**
Beloit, Wisconsin

▲ For more details circle NED-336 C9 on enclosed inquiry slip ▲

Modern AIR CONVEYING for BULK MATERIALS HANDLING

SPROUT-WALDRON
PNEU-VAC

Modernize for greater savings with a Sprout-Waldron PNEU-VAC Pneumatic Materials Handling System. It draws granular, pulverized, and flaky materials by air anywhere you can run a pipe. The unit can be made to cool, to heat, to aerate, to dry.

Pneu-Vac is self-cleaning, does not produce dust, prevents infestation and product intercontamination, saves space, increases production, provides greater safety and better working conditions.

Sprout-Waldron also offers complete lines of the most advanced screw, belt, and drag conveyors . . . bucket elevators . . . and rotary vane feeders. Write for details.

Write for Bulletin 18-D.

IN/489

SPROUT-WALDRON
Manufacturing Engineers Since 1866
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

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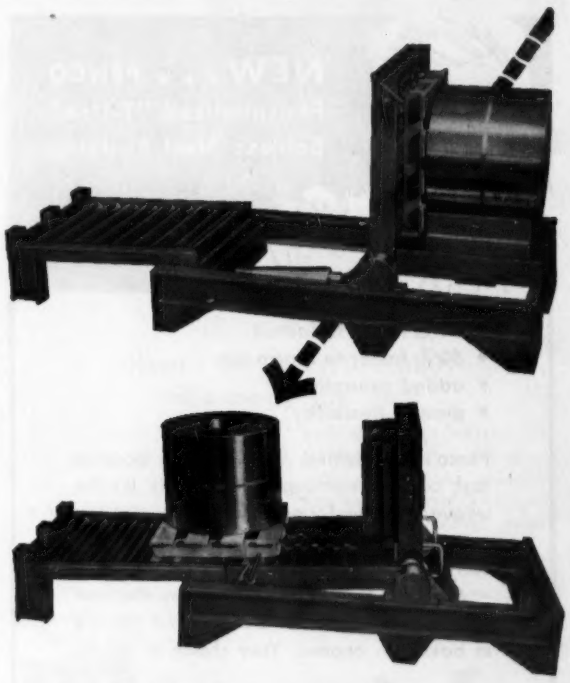
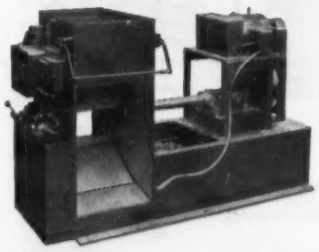


Coil tilting made easy with these portable self-contained tilters

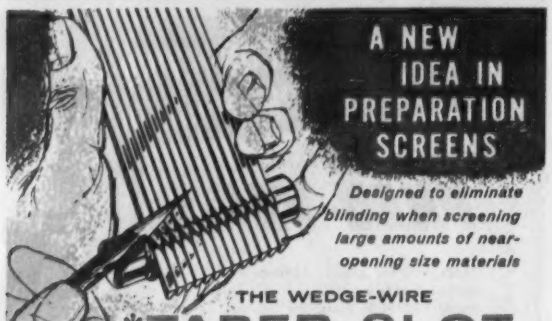
Coils of steel, tinplate, brass, aluminum and other metals are easily tilted from horizontal to upright or upright to horizontal position with the Salem-Brosius line of portable coil tilters. Completely self-contained, they are hydraulically actuated from a single electric motor power source. They can be moved from one position to another in the plant by crane and will tilt coils weighing up to 50,000 lb, centering them on pallets up to 66 in. square.



Slitting mill edge-trim and scrap wire are tightly balled and automatically ejected from this Salem-Brosius scrap baller.

SALEM-BROSIUS, INC.
16 Arch Street • Carnegie, Pa.
In Canada: Salem Engineering Limited • 1525 Bloor St. W. Toronto 9, Ontario

▲ For more details circle NED-338 C9 on enclosed inquiry slip ▲



A NEW IDEA IN PREPARATION SCREENS

Designed to eliminate blinding when screening large amounts of near-opening size materials

THE WEDGE-WIRE

*TAPER-SLOT

patent applied for

*From loop to loop, the opening or slot gradually increases in width. This new design enables materials that would normally lodge between the wires to be transported, with the flow of the mass, to the larger opening of the taper slot. At this point the material either passes through the screen or becomes loose. In addition, the "dip" created by Wedge-Wire loop construction, frees oversize materials and allows them to continue on with the material flow. These factors are responsible for the high efficiency of the TAPER-SLOT screen.

*for example: .016 opening tapered to .024 — the combination of opening sizes would be the same between each loop throughout the entire screen.

The new TAPER-SLOT can be easily interchanged with other types of Wedge-Wire Kleenslot screens. Available in all Wedge-Wire materials.

for additional information . . . write
WEDGE-WIRE CORPORATION
Wellington, Ohio

▲ For more details circle **NED-339 C9** on enclosed inquiry slip ▲

- 50% faster to install
- 50% faster to rearrange
- added strength
- greater flexibility

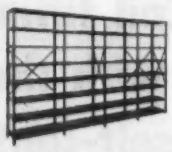
Penco's new Boltless Steel Shelving goes up fast, can be rearranged in seconds. It's the unique precision-formed channel clip that cuts assembly time, speeds rearrangement of shelves.

Available in over 1000 variations. Made of prime steel, phosphate treated and finished in baked-on enamel. Your choice of colors.

Pick 'em up!

Clip 'em on!

Drop in shelves!



OPEN TYPE

CLOSED TYPE

LEDGE TYPE

WRITE FOR NEW BULLETIN B-40
Design—Types—Sizes—Parts—Features

ALAN WOOD STEEL COMPANY
PENCO DIVISION
406 Brower Avenue, Oaks, Pennsylvania

▲ For more details circle **NED-340 C9** on enclosed inquiry slip ▲

CHAIN CONNECTING LINK
color coded for locating quickly

Easily distinguished from other links in roller chain, Identa-Links are color coded for fast location and disassembly of the chain. Color will even tell if the link is slip, tap, or press fit type. Identa-Links will be standard in Atlas single and multiple strands of roller chain, and they are available as replacement links for existing chains. Made by **Atlas Chain & Mfg. Co.**, Dept. 5, West Pittston, Pa.

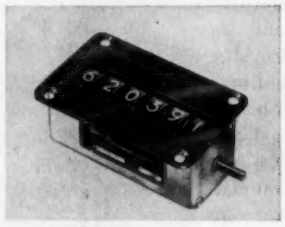
▲ For more details circle **NED-341 C9** on enclosed inquiry slip ▲

DRILLING FIXTURE
top plate swings away for loading

Precision drilling of holes in workpieces at production speeds is facilitated by this drilling fixture which features a Swing Away top plate. The plate is locked down on the part through a taper wedge action with only slight pressure on handle. Drill is guided to work through a bushed hole in the plate. Light pressure on handle also releases the plate and raises it into swing position. Fixture can be set on its back for drilling 90 degrees to original drill job. A double top plate is available which swings 180 degrees for drilling adjacent holes. Sizes are offered to clamp parts 1¾ to 8 in. high. Made by **Accurate Bushing Co.**, 443 North Ave., Garwood, N. J.

▲ For more details circle **NED-342 C9** on enclosed inquiry slip ▲

MECHANICAL COUNTER
geared unit counts to 999,999

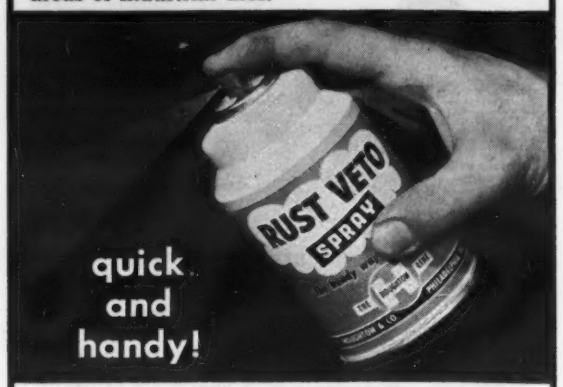


Nylon cam and roller compensating drive moves the planetary gear to quickly transfer the number on the PlanetGear mechanical counter. Smooth rolling action of the always-meshing planetary gears makes it possible to drive the counting wheels at continuous speed of 1000 rpm or 10,000 counts per minute. Bearings, gears, cams, and rollers are nylon, and the main shaft is centerless ground and polished stainless steel. Equipped with 5/16-in. numbers, the nonreset, nonreversing model shown counts to 999,999. Made by **Haydon Instrument Co.**, 165 W. Liberty St., Waterbury 20, Conn.

▲ For more details circle **NED-343 C9** on enclosed inquiry slip ▲

NEW SPRAY-ON RUST PREVENTIVE

Gives tools, jigs, dies and machines positive rust protection without messy brushing or dipping. Fast, easy and economical to use on highly finished parts stored or wrapped for shipment. Has hundreds of industrial uses.



Price, $15.24 per case of twelve-12 oz. cans f.o.b., Philadelphia, Pa. (sold in case lots only). For immediate delivery write E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

RUST VETO SPRAY
...a product of **E. F. HOUGHTON & CO.**
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO · TORONTO
Ready to give you on-the-job service

▲ For more details circle **NED-345 C9** on enclosed inquiry slip ▲

Hardness Readings in 2 seconds!

Webster
PORTABLE
Hardness Testers
FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 25, California

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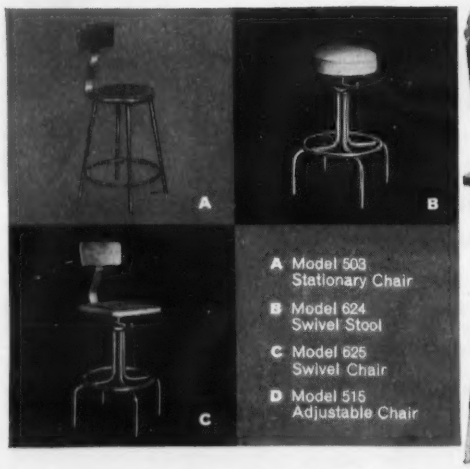
Royal®



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INDUSTRIAL SEATING

speeds production and improves efficiency

Worker alertness saves money in many ways—greater output, fewer rejects, less spoilage—and there's no better cure for mid-afternoon slump than right-posture *Royal* seating . . . the chairs and stools that last longer, look better, because that's the way *Royal* builds them.

ROYAL ORIGINATED
POSTURE-SEATING FOR INDUSTRY

In the 29 *Royal* models, there's one just right for every job . . . at machines or assembly benches . . . for drafting, stock, and shipping rooms . . . in shop offices. Fixed or adjustable heights. Exclusive Royal *Micro-Hite* control. 4-way adjustable chair backs. Contour, flat, or padded seats. Look to *Royal*, too, for metal storage cabinets and the world's finest office seating.

ROYAL METAL MANUFACTURING CO.
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WORM GEARS

NEW BULLETIN CD-700-C free to design engineers

Details of hundreds of matched sets of double-enveloping worm gears. Capacities from fractional to over 1600 hp. Drawings, charts and photos illustrate 16-page booklet.

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

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CARPENTER-LIGHTS OFFER:
• Ultra-power • Dependability • Ruggedness

Built for maximum light . . . minimum maintenance — best value for your dollar

NEVER SETTLE FOR LESS!

Complete catalog on request

CARPENTER MFG. COMPANY
916 Bradley St. Somerville 45, Mass.

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FAST, AUTOMATIC PALLET STACKING

STANDARD PALLET STACKER
safely stacks pallets 12-14 high

This compact Standard unit reduces labor effort . . . stacks pallets quickly, automatically. Important accessibility feature: a lift truck can approach it from any of three sides.

For complete information, see the Standard engineer listed in your phone book or write Dept. K-3, STANDARD CONVEYOR COMPANY, General Offices: North St. Paul 9, Minnesota.

Standard
GRAVITY & POWER CONVEYORS
OVER 50 years of conveyor experience

Sales & Service in Principal Cities—In Canada: International Equipment Co., Ltd., Montreal, Toronto, Hamilton, Edmonton and Vancouver.

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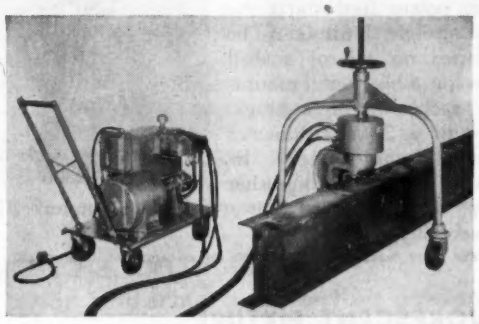
PORTABLE VACUUM CLEANER straps on the user's back

Contoured to fit the user's back comfortably, the ST-59 Strapavac portable vacuum cleaner weighs only 10 lb. It has a colored molded high impact casing with aluminum trim and incorporates a 1-hp motor with Aero Cyclonic Action. A throw-away paper bag inserted into the cloth filter bag permits constant air flow with no loss of suction until the bag is full. Cleaner can be converted into an easy-wheeling floor model or blower. Attachments from 9 to 44 in. wide simplify the vacuuming of floors, carpets, stairs, and walls. Made by M. D. Stetson Co., 64 E. Brookline St., Boston 18, Mass.

▲ For more details circle NED-350 C9 on enclosed inquiry slip ▲

PORTABLE HYDRAULIC PUNCH in 5 to 90-ton capacities punches hard-to-handle pieces

Awkward, hard-to-handle metal pieces can be hole-punched on the spot with Hydramic portable hydraulic punches available in 5 to 90-ton capacities. It consists



of the pushbutton-controlled punch unit, the hydraulic unit, and interconnecting flexible hydraulic lines. The 5 to 30-ton units can be carried from job to job, whereas heavier 50, 70, and 90-ton units have a castered cart power unit and a punch unit suspended from a castered tripod. Punch head can also be suspended from crane, hoist, or A-frame.

Operator has full control over start, stop, and reverse ram movement which permits jogging. Heavier units are also equipped with back gages and a pointer for punching holes in a straight line, parallel to length of workpiece. The 90-ton unit will punch up to 1 1/16-in. holes through 7/8-in. or 1-in. holes through 1-in. mild steel. Punches and dies can be changed in less than 2 min. Made by W. A. Whitney Mfg. Co., 636 Race St., Rockford, Ill.

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The correct wire to correct terminal every time!

The New JONES FANNING STRIP

Connections are made through Fanning Strip on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting. **Visit Booth 2535 At The IRE Show**

9-161 Fanning Strip. Pat. applied for.

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Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING COMPANY
CHICAGO 24, ILLINOIS
DIVISION OF UNITED-CARR FASTENER CORP.

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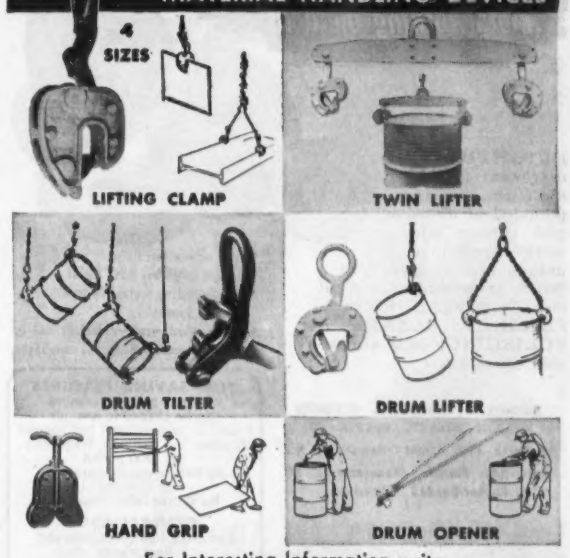

For Interesting Information write

MERRILL BROTHERS
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Cleans air electronically, rolls away the dirt!

Here is the only air filtration unit in the world that offers you

- the *efficiency* of an electrostatic precipitator, and
- the *minimum maintenance* of an automatic-renewing, disposable media air filter, both in one space-saving unit!

MINIMUM MAINTENANCE. Replace soiled media about once a year—like changing film in a camera! That's all; no oiling, washing, water, freezing, or drains.

SMALLER SIZE. Rollotron requires no more space than any other electrostatic precipitator. Write for Bulletin 249.

American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

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FREE BOOKLET may solve your hand tool problem . . .

It's yours for the asking: Sargent's new booklet "Industrial Application Data for Plier-Type Tools." Contains detailed case histories on cutting, shaping, crimping, punching and holding problems solved with Sargent precision hand tools. Describes and illustrates Sargent's parallel action, compound hand pliers, punches and special purpose tools many of which are designed on a custom basis. Mail coupon now for your copy.

SARGENT & COMPANY, New Haven 9, Conn.

Gentlemen: Please send me your new booklet "Industrial Application Data for Plier-Type Tools."

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Manufacturers of quality locks, hardware and tools since 1864.

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Replace older, costlier metalworking methods

BRIGHTBOY, *the different finishing medium,* is compounded of abrasive and rubber which work together in a unique action; gives you a broad, refreshing concept of metalworking. BURRING, FINISHING, CLEANING, POLISHING, in a single-step operation.

WRITE us now for:
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Works to close tolerances
Can be shaped to contour
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GENERAL USES
Removing light digs, tool and heat marks
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Maintenance of tools and machinery

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

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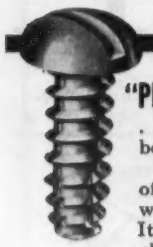
3 New, Improved Thread-Cutting Screws from Parker-Kalon!

Whatever the material, whatever the requirements, there's a new, improved P-K thread-cutting screw that's just right for your application. The five cutting flutes on the new, improved P-K Type "F" and "BF" reduce pressure development by 80 percent! The completely formed threads on these screws have sharper cutting edges, fully formed threads and 5 deep flutes that are of continuous depth. These features make for better clearance of the accumulated material and assure minimum stresses in driving and avoid the possibility of stripping or galling.

New, Improved P-K® Type F* . . . Ideal for friable, granular, or brittle material. For ferrous or non-ferrous castings, bronze or brass forgings, heavy gage sheet metals, structural steel, plastics, or resin-impregnated plywood.



"PENTAP" the New, Improved P-K Type B-F* . . . For comparatively thin sections and bosses in friable and brittle plastics.

Combines the five thread-cutting flutes of the Type F screw with the coarse pitch, widely-spaced threads of the P-K Type B. It distributes cutting pressure evenly, lets chips drop to the bottom of the hole, prevents cracking of the material.

The New P-K Type L† A completely new and improved tapping screw developed for use in Nylon. Functions as a combination thread-cutting and thread-forming screw, cutting a small amount of the Nylon to allow the full diameter threads to form. Offers a particular advantage in Nylon assemblies which must be disassembled for service, because *it can be readily removed and replaced without stripping or galling.*

And don't forget . . . P-K can provide all types of SEMS and Pre-assembled Fastener-Washer Combinations. Send for your FREE Test-Pak of P-K Sems and new, improved Thread-cutting Screws Today!

PARKER-KALON®
fasteners

PARKER-KALON DIVISION, General American Transportation Corporation, Clifton, New Jersey • Offices and warehouses in Chicago and Los Angeles.

*Patent Pending †U. S. Patent 2,350,348

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TWO-STEP GEARHEADS multiplies speed range or torque

Speed range of Zero-Max infinitely variable speed controls is increased from 0-400 rpm to 0-2000 by this series of two-step gearheads. Torque limit is raised from 100 lb-in. to 450 lb-in. Gearheads are available in eight ratios: 2, 3, 4, and 5:1 and 1:2, 3, 4, and 5. They become an integral part of the unit with common lubrication. The Zero-Max infinitely variable transmission for fractional horsepower motors features direct power linkage through cams and over-riding clutches. Made by **Revco Inc.**, 1900 Lyndale Ave. S., Minneapolis 5, Minn.

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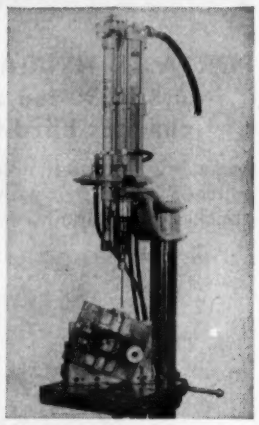
AIR-HYDRAULIC DRILL stroke is adjustable to 4 in.



Quick interchangeable speed conversion, stroke adjustable to 4 in., and adjustable rapid approach are featured by the ½-in. capacity Versa-Matic self-contained air hydraulic drilling unit. Motor cuts off after hole depth is reached and is energized when power feed starts the next cycle. Unit can be mounted on top of a drill press, on a horizontal mounting bracket, or on a bracket to fit a 2¾-in. diameter press column. Made by **General Fire Extinguisher Corp.**, General Tool Div., 8740 Washington Blvd., Culver City, Calif.

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FLUORESCENT FIXTURE holds two 40-w rapid start lamps

Economy priced Model 6400 fluorescent lighting fixture has a baked enamel finish on its removable reflector to facilitate cleaning and maintenance. The industrial unit is equipped with two 40-w lamps. It has a rapid-start UL ballast and is designed for chain, stem, or surface mounting. Made by **Franklin Research Corp.**, Wheeler-Fullerton Lighting Div., 275 Congress St., Boston, Mass.

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NEW Gradient micro-Web
PULMOSAN
G-W
DUST FILTER for
• BETTER FILTRATION OF ALL DUSTS
U. S. Bureau of Mines approved for dusts not more toxic than lead and chromic acid mists.
• EASIER BREATHING
• LONGER FILTER SERVICE
A radically new disc-type filter with micro-web pores formed with an ultra-fine fibrous base. A great advance in filtering efficiency for all dusts — no advance in filter prices.

BUREAU OF MINES APPROVED

May be used with any Pulmosan U.S.B.M.-approved respirators. Write for full information.

PULMOSAN STOPS Accidents
Pulmosan SAFETY EQUIPMENT CORPORATION
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1007 Washington Ave., St. Louis, Mo., CHestnut 1-9393

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IDEAL

the answer to small hand hole problems!

Series 900
Tube Expanders

. . . for Rolling and Flaring Tubes in Super-Heater Units. Series 900 NOW made for tubes as small as 15/16" inside diameter.

Expander, Mandrel and Joint in one compact unit, assures easy entry and withdrawal.

Series 940

See Your Dealer, or Write Us Today!

THE GUSTAV WIEDEKE COMPANY
DAYTON 1, OHIO

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COLSON LIFT JACK SYSTEMS

REPLACE COSTLY EQUIPMENT

CUT HANDLING TIME

Used with wood skids to give resilience and cushioning . . . also smooth steel decked skids.

Write for illustrated folder for benefits of the low cost Colson Lift Jack System.

Colson

Contact your local representative or distributor or write to:
The Colson Corporation
7 South Dearborn St., Chicago, Ill.

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INSTALL **NESTIER HOPPER RACKS**

Amazing case studies prove how much Nestier Hopper Racks can speed production. They provide a constant supply of parts at workers' fingertips. They eliminate re-handling of parts on the job, and permit rapid replacement of empty units. Nestier Hopper Racks can be filled at a central point to give more accurate inventory control. Write for literature today. Dept. D-3.

NESTIER FIRST IN SMALL PARTS HANDLING

NESTIER CORPORATION Subsidiary of THE METAL SPECIALTY CO.
4519 Este Ave., Cincinnati 32, Ohio

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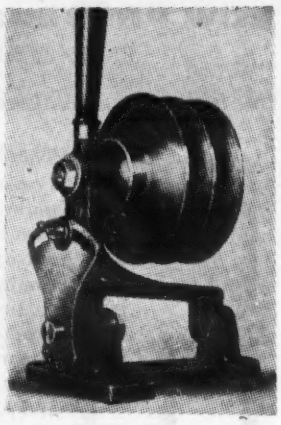
VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.,** 2224 Albion St., Toledo, O. **Adv.**

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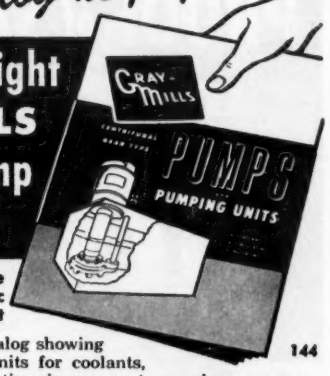
Let this New Catalog help you

Select the right GRAYMILLS Coolant Pump for Any Job



and you don't have to be an engineer or an atomic scientist to understand it

The new Graymills Catalog showing pumps and pumping units for coolants, for circulating, for agitating, is so easy to use, is so packed full of useful information, that you owe it to yourself to send for it right away. It tells how to select the right pump for any job, with any liquid, for any size machine tool. It even covers special applications of such materials and solutions as pumice, rouge, abrasive mixtures, lacquer, liquid printing inks, adhesives, etc.

It's new, it's free for the asking. Write for your copy today. If others in your plant should have it, ask for extra copies.

Graymills Corporation, 3717 N. Lincoln Ave., Chicago 13, Ill.

144

GRAYMILLS

Superflo COOLANT PUMPS AND UNITS

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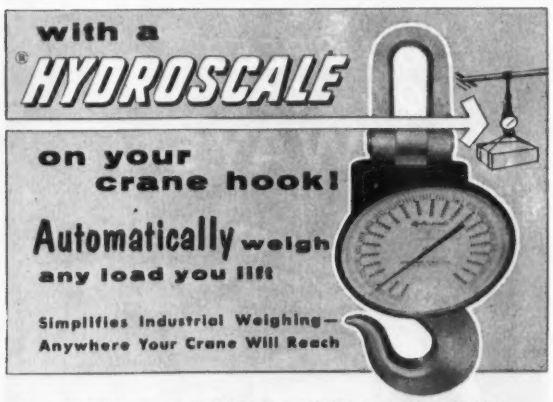
with a ® HYDROSCALE



on your crane hook!

Automatically weigh any load you lift

Simplifies Industrial Weighing—Anywhere Your Crane Will Reach

ALL WEIGHING IS DONE ON YOUR CRANE HOOK
ENGINEERED AND BUILT FOR LONG SERVICE-LIFE
THERE ARE 110 MODELS IN THE COMPLETE LINE
TARE ADJUSTING KNOBS FOR NET LOAD READING
EASY-TO-READ DIALS AVAILABLE IN 3 SIZES

HYDROSCALES *guaranteed*

They are guaranteed to be free of defects in workmanship and materials, and to be accurate to ½ of 1% of the maximum dial capacity

HERE ARE SOME TYPICAL WEIGHING APPLICATIONS

Just a few of the many applications include — loading, unloading, check weighing, batching, foundry charging, and protecting your equipment from overloading.

HYDROWAY SCALES, INC.

31288 Stephenson Highway • Royal Oak, Michigan

"The world's largest producer of crane scales"

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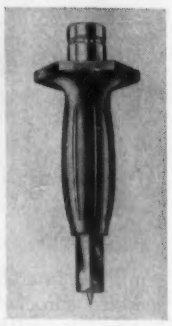
PIN & STUD DRIVER
hand tool sets fasteners in masonry



Nail type pins and threaded studs are held true and straight, and kept from buckling or bending as they are driven into masonry, concrete, and concrete block with the Hamrdriver. The hand operated tool holds the fasteners for driving with an ordinary hammer without drilling holes. Threaded Hamrstuds or nail type Hamrpins will also penetrate ¼ in. of low carbon steel. Both types of fasteners are offered in various lengths. Made by **Star Expansion Industries Corp.,** Mountainville, N. Y.

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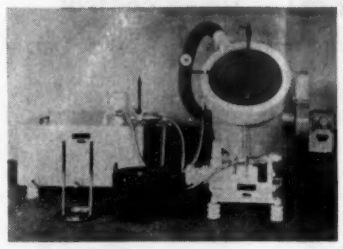
BARREL CHROME PLATER
uses 750 to 1000-amp rectifier



Adjustment of barrel angle, choice of different size mesh plating baskets, and an adjustable anode permit the Riedel barrel chrome plater to process parts with varying shapes, sizes, and weights. Loads may vary from 5 to 10 lb. A 750 to 1000-amp rectifier with 0 to 10-v output is recommended for the standard Model R unit. The 50-gal capacity solution storage tank (at left) is water-jacketed and equipped with three 2000-w immersion heaters. Electrolyte temperature is thermostatically controlled and constantly circulated between barrel and tank by a pump during barrel operation. Made by **Dawson Corp.,** 302 Fifth Ave., North Pelham, N. Y.

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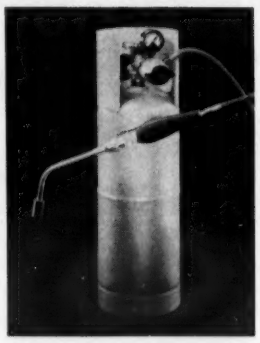
PROPANE CYLINDER
for soldering and heating equipment



The P-6 multipurpose propane cylinder can be used for liquid or vapor service in a vertical or horizontal position, depending upon the type of standard or special valve used with it. It has a 6-lb capacity, weighs only 14 lb with valve, and measures 20 x 6 3/16 in. Cylinder can be used with all LP-gas soldering, heating, and brazing equipment. Finish is zinc chromate primer and metallic aluminum enamel. Made by **Linde Co.,** 420 Lexington Ave., New York 17, N. Y.

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WRAP-IT-HEET ELECTRIC DRUM HEATER

Melt and Speed-Up Slow-Flow Materials

RESINS • MOLASSES • OILS • GREASES
ADHESIVES • TARS • GUMS • OTHERS

SAVES TIME . . . New Acrawatt Drum Heater quickly empties slow-flow materials from their drums. New spring-loaded toggle clamp for speedy on-off. Handy 3-heat selector switch. Use singly or in multiples.

AC/DC Models for 3,000 watts, 230 volts or 2,500 watts, 115 volts. 5" aluminized steel heater band. Long-life nickel chrome heating element.

Model RH-1, shipping weight 10 lbs. **$29.50** *each.*

New ELECTRIC PAIL HEATER
Fits around 5-gal. straight-sided containers. Toggle clamp. 3-heat switch. Model PH-5, shpg. wgt. 5 lbs. **$16.75** *each.*

In stock, order now—F.O.B. Chicago

ACRA ELECTRIC CORPORATION
9907 Pacific Ave., Franklin Park, Ill.
GLadstone 5-4777

ELECTRIC HEATING ELEMENTS ACRAWATT "PRECISION IN HEAT"

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HILD
TRANSFERABLE HEAD VACUUMS

Speed-up maintenance with Hild transferable head vacuums — ideal for all types of heavy volume or bulk vacuuming, including furnace, flue, and air conditioning duct cleaning. Powerful 1⅓ h.p. motor fits any 10, 15, 30, or 55 gallon drum — transfers from drum to drum in seconds for quick cleaning and water removal. Motors can be converted to blower or "Strap-Bak-Vac" for vacuuming in hard to reach areas.

Model 455
55 Gal. Vacuum
1 h.p

Model 655
55 Gal. Vacuum
2-2/3 h.p.

HILD FLOOR MACHINE COMPANY
NED-39
1217 Washington Blvd. • Chicago 7, Ill.
Write today for complete information.

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Take any portable drill ...add a SUPREME

Push-Pull Tapper®

Tap in all materials—fast, safely, accurately—with *minimum* breakage

The Supreme PUSH-PULL TAPPER is an instant-reversing speed reduction unit made expressly for tapping. The prize-winning Push-Pull attaches easily to either the spindle or chuck of any drill. Speed reduction of 7:1 gives adequate power to tap in all materials . . . instant-reversing means that tap direction can be reversed without stopping drill. Tap can be moved into and out of the hole at will.

With the Push-Pull tap breakage is minimum. Finger-tip control gives operator a better "feel" for break-causing strains. Complete PUSH-PULL TAPPER Kit, No. 9000, costs just $29.95; includes everything but taps. Write for literature.

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2222 S. Calumet Avenue, Chicago 16, Illinois
A DIVISION OF A•S•R PRODUCTS CORPORATION

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Here's the *low-cost answer to chain breakdowns* caused by link-wear, stretch, corrosion and friction. OIL-RITE Chain Oilers feed oil by gravity through solenoid and sight feed valve to brush which rides the chain. Solenoid *starts and stops with driving motor*, making operation automatic, oiling only when chain moves. Drop feeding adjustable. 9 oz. — 1 gal. in capacity with brushes to suit your chains.

GIVE YOUR PLANT ALL THESE BENEFITS!
- Safe, sure chain lubrication
- Reduce chain wear
- Eliminate costly hand oiling
- Cleaner, less hazardous floors

Many styles of Electro and Manual Chain Oilers available. Write for Free Bulletin.

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2364 WALDO BOULEVARD
MANITOWOC, WISCONSIN

Oil Cups • Dispensers • Oiling Systems • Valves • Oil Gages • Chain Oilers

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THOMSON "Snap-In" **NYLINERS**
of smooth, tough DuPont NYLON

Better bearings that
COST less to BUY*
...less to INSTALL
ELIMINATE LUBRICATION!

Additional Benefits:
- CLOSE FIT
- LONGER LIFE
- EASILY INSTALLED
- LESS SERVICING
- SELF-RETAINING
- RESIST CORROSION
- LOW FRICTION
- RESIST POUNDOUT
- NO FRICTION OXIDATION
- DAMP VIBRATION
- OPERATE IN LIQUIDS
- NON-CONTAMINATING
- INSTANTLY REPLACEABLE
- RESIST ABRASION
- MINIMUM SPACE
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- LIGHTEST WEIGHT
- REDUCED WEAR

NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

Seven Standard Types available from stock. Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

*In production quantities at now, REDUCED PRICES.

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

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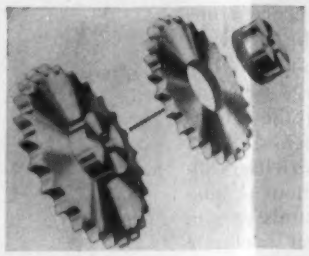
STOCK SPROCKET ASSEMBLY
in over 600 size combinations



Over 600 possible pitch, teeth, and bore size combinations are provided by line of Selecta-Bore stock sprocket assemblies. Rapid off - the - shelf service to fill customers' bore sprocket requirements is made possible by assembling interchangeable plates and hubs. Each assembled sprocket is ready for installation by user and is complete with standard keyway and setscrew. Reworking is unnecessary. Offered by **Whitney Chain Co.**, 237 Hamilton St., Hartford 2, Conn.

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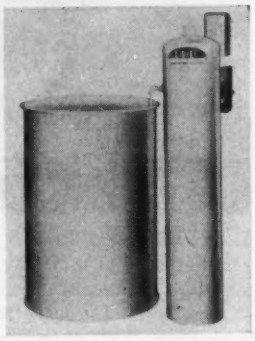
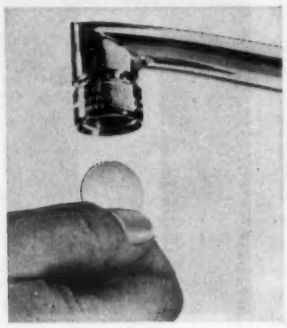
AUTOMATIC WATER SOFTENER
regenerates under timed control



Completely automatic in operation, Pacemaker Model PA water softener is available in 30,000, 60,000, and 100,000-grain capacities. A 12-day clock controls regeneration of the resin softening medium in any increment of 1 to 12 days, or an auxiliary pushbutton permits intermediate regeneration during heavy load periods. Long life is assured through use of corrosion resistant materials and coatings. Entire three-cycle regeneration is automatic, assuring a constant supply of properly softened water for any plant purpose. Made by **Stover Water Softener Co.**, Stover Bldg., St. Charles, Ill.

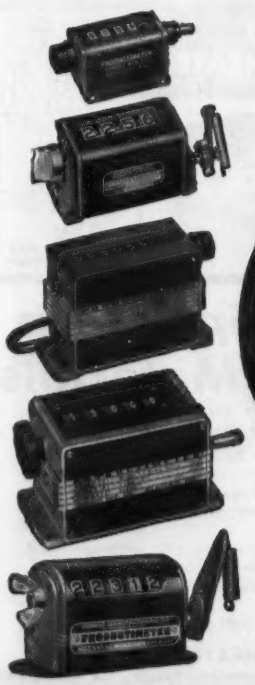
▲ For more details circle NED-378 C9 on enclosed inquiry slip ▲

FAUCET AERATOR
is vandalproof when installed



Installed and removed only with a special key, this pilferproof faucet aerator delivers aerated water stream that will not splash. Exposed portion has an exposed loose ring that turns freely so that it cannot be unscrewed by hand. Narrow slots hidden from view accept only the special tool. Aerator is supplied with male thread for most standard faucets by **Chase Brass & Copper Co.**, 236 Grand St., Waterbury 20, Conn.

▲ For more details circle NED-379 C9 on enclosed inquiry slip ▲



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PRODUCTIMETERS SINCE 1879 *Count Everything*

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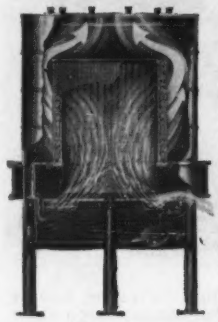
LOW PRESSURE DROP OIL BATH AIR FILTER
for turbocharged engines, compressors, blowers



The Air-Maze Type LPD (Low Pressure Drop) oil bath air filter makes possible low static pressure loss operation without any outside energy or moving parts whatever. As a result, it offers particular benefits in cleaning of intake air on turbocharged stationary engines, since pressure losses of silencers, piping, elbows and air cleaners are additive.

Built specifically for larger range air flows, it offers resistances as low as 1" of water. As shown in the illustration, oil-scrubbing of intake air is accomplished by reversing the conventional oil and air current. Thus, low pressure loss is attained without sacrifice in efficiency, or oil washing action. There are no moving parts. Service is limited to occasional draining and cleaning of an oil sump.

Available in sizes from 800 to 16,500 cfm. Write for Bulletin LPD-1055. The Air-Maze Corporation, Dept. NE-3, Cleveland 28, Ohio. *Advt.*

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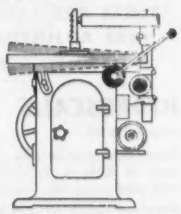
HIGH-SPEED LOW-COST
KEYWAYS

WITH DAVIS KEYSEATERS!

You can cut accurate, low-cost internal keyways at *minimum* cost with Davis Keyseaters. Here's why: (1) operation is designed for production *speed;* (2) machine sets up easily, does *not* require skilled operator; (3) maximum concentricity of the keyway in each bore assured; (4) Built in 2 sizes. Keyways range from $\frac{1}{16}$" to 1". High speed steel cutters stocked in all sizes; (5) the *best* keyseater of its type, yet *inexpensive!* Write now for FREE DETAILED LITERATURE!



Tilting table sets easily for tapered keyways up to 3" per foot.

DAVIS KEYSEATER COMPANY
DIVISION OF *Hansford* MANUFACTURING CORPORATION
1237D UNIVERSITY AVE., ROCHESTER 7, NEW YORK

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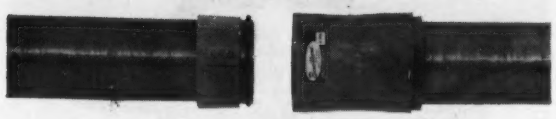
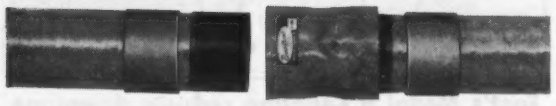


fiber-glass reinforced epoxy pipe by Amercoat®



... strong as steel pipe, only one-eighth the weight. Tensile: hoop 80,000 psi, longitudinal 40,000. Highly corrosion resistant. Won't scale, cold flow or deform. 20-foot lengths easy to cut and join; threaded or locking wedge fittings.

MOST COMMON DIAMETERS AVAILABLE

Write for BONDSTRAND technical brochure

Amercoat CORPORATION

Dept. QC • 4809 Firestone Boulevard
South Gate, California

114A

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BEVERLY THROATLESS SHEARS

MAKE CUTS LIKE THESE

QUICKLY... EASILY... ACCURATELY

16 ga. metal cut with Model B-1 Shear.

Save time, labor and material—use a Beverly to make any cut . . . straight, curved or irregular in any metal. Exclusive design allows work to be turned at any angle while cutting. Standard in the industry for years. 4 models—capacities to ⅛" mild.

See your Beverly Distributor for a demonstration. Write for FREE illustrated circular on Beverly metal cutting Shears.

MODEL **B-3** with ball bearing hold down. Cap. 3/16" mild; 10 gauge stainless.

Beverly SHEAR MFG. CO.

3016 W. 111th STREET • CHICAGO 43, ILLINOIS

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Better Power Transmission Through Better Gears

NEW!

2" to 3⅜" CENTER

HYGRADE WORM GEAR SPEED REDUCERS

OFF-THE-SHELF DELIVERY...

Choose your HYGRADE unit from 4 types, 4 sizes and 6 ratios . . . 96 combinations in all, and you'll get greater capacity-for-size, more compact design and many features that mean lower power transmission costs. Your Foote Bros. Distributor or Factory Warehouse has them IN STOCK now. Ask, or write for the new HYGRADE Catalog.

FOOTE BROS. GEAR AND MACHINE CORPORATION

4569 South Western Boulevard • Chicago 9, Illinois

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PRESS UNLOADERS
have 14½ and 16½-in. strokes

Two small, compact horizontal press unloaders for a variety of applications can be installed on a number of small and gap presses. Unit with a 14½-in. stroke is being used to remove scrap from inside the die area of a press. The 16½-in. stroke model with a 3-in. lift is being used to unload the second stage of a two-stage die. Jaw components are interchangeable with standard Iron Hand press unloader jaws. Made by **Sahlin Engineering Co.**, Box 289, Birmingham, Mich.

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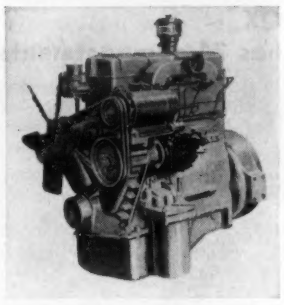
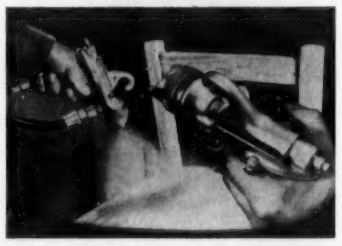
DIESEL ENGINES
70 and 80-hp units offered



Benefits of diesel engine economy are given to equipment previously powered by gasoline engines with the introduction of the 70-hp J-70 and 80-hp J-80 diesel engines. Applications include light trucks and busses, tractors, pumping systems, shovels and cranes, boats, graders, compressors, and generator sets. The four-cycle, naturally aspirated engines have 4⅛ in. bore and 5 in. stroke with 267-cu in. piston displacement. The J-80 develops rated horsepower at 2500 rpm, the J-70 at 2000 rpm. Made by **Cummins Engine Co.**, Columbus, Ind.

▲ For more details circle NED-388 C9 on enclosed inquiry slip ▲

HAND SPRAY GUN
one hand controls spray pattern



Instantaneous one-hand control of the spray pattern with either external or internal atomization is a feature of the High - Low Spray-Rod hand spray gun. Type of atomization is selected by changing nozzles without use of tools. Gun has a low center of gravity contour fit. Pushbutton fan control with thumb or forefinger makes available two adjustable fan widths. Gun also features removable plunger, protected trigger, critical parts of stainless steel, and no exposed threads for ease of maintenance. Made by **Eclipse Air Brush Co.**, 390 Park Ave., Newark 7, N. J.

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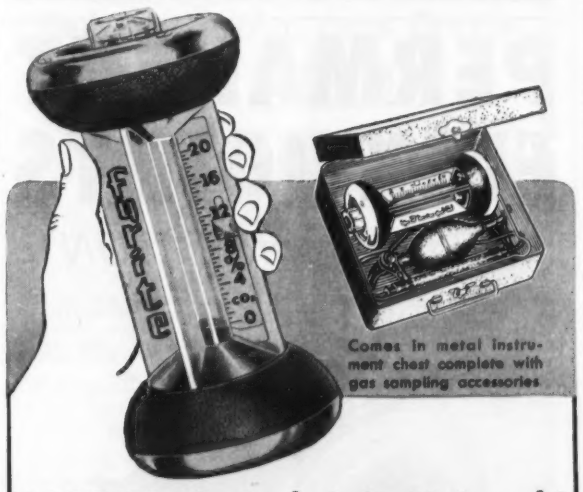

ACCURATE CO_2 Analysis in 40 Seconds!

Other outstanding features of the FYRITE CO_2 Indicator are its durable, fool-proof construction and unmatched convenience of operation. It requires no setting-up, has no valves or leveling bottle to manipulate.

The FYRITE measures CO_2 directly by the fundamental method of chemical absorption. Consequently, the reading is independent of voltage, humidity, temperature, or atmospheric pressure conditions.

Comes complete with chemical charge good for at least 300 readings. Replacing chemical merely requires removing four screws that hold top assembly in place.

Write for Bulletin 805

BACHARACH Industrial Instrument Company

200 N. Braddock Ave. • Pittsburgh 8, Pa.

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Permanently End Condensation Drip, Rust and Corrosion with NoDrip Plastic Coating!

Here is the inexpensive, easy way to solve your condensation problem once and for all. NoDrip plastic coating acts immediately to insulate and protect tanks, pipes, walls, ceilings, air ducts and other metal equipment against condensation drip, rust and corrosion. NoDrip can be applied by anyone without special experience with brush, trowel or spray. NoDrip is also resistant to acid, alkali and brine... protects concrete, brick, plaster, tile, wood or composition surfaces.

FREE

32-PAGE NoDrip DATA HANDBOOK Complete with photographs, charts and technical information to help solve your condensation problem. Write today!

Available at leading plumbing and mill supply houses
J. W. MORTELL COMPANY 526 Burch St., Kankakee, Ill.

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TORNADO.

Makes a Machine for

EVERY CLEANING NEED

No matter what your cleaning problems may be, Tornado makes machines that solve them fast, easily and economically.

For vacuum cleaning walls, ceilings, fixtures, radiators, floors (including wet pick-up) furnaces and boilers, or for scrubbing and polishing floors or shampooing carpets—Tornado is the right machine.

Look for this name when buying cleaning equipment, it is your assurance of superb performance and ruggedness. There's a Tornado distributor near you.

A. Series 400 Heavy Duty Vacuum Cleaner with removable motor unit.

B. Pac-Vac the Portable Vacuum Cleaner or Air Sweeper.

C. Jumbo, the Conversion Unit that turns any 55-gal. drum into a Vacuum Cleaner.

D. Series 300 Heavy Duty, Quiet Type Vacuum Cleaner.

E. Series 140—household size with commercial cleaner ruggedness.

F. Heavy duty floor scrubbing and polishing machine.

G. Series 130, 13" "light heavyweight" Floor Machine.

For a FREE CLEANING SURVEY and complete literature on Tornado machines, just mail the coupon below.

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5116 NORTH RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

We would like to know more about Tornado Cleaning Equipment.

☐ Send Complete Literature. (Bulletin #901)

☐ Have representative call for my free cleaning survey.

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Company_____

Street_____

City_____ Zone_____ City_____

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AIR REGULATOR accurately controls pressures to 135 psi

DeVilbiss Air Pressure Regulator offers extreme accuracy wherever controlled air pressure is needed. Regulates pressures up to 135 lbs. with only ½-lb. variation for each 10-lb. fluctuation in main line pressure! Two stage control provides easy knob setting, sensitive regulation, less pressure drop. Compact size. Fingertip adjustment. No large, heavy springs. Two inlets and three outlets allow for any type of installation. See your supplier, or write for Form I-4001.

DEVILBISS

THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

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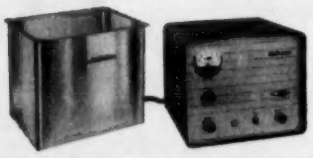
MAMMOTH narda SONBLASTER

America's first mass-produced industrial-size ultrasonic cleaner!

SAVE *7 ways over costly solvent, alkaline or vapor degreasing:*

• Clean faster, speed production! • Cut rejects, eliminate bottlenecks! • Save on chemicals & solvents! • Eliminate expensive installation! • Cut maintenance and downtime! • Save on floor space! • Release labor for other work!



G-1501 generator, NT-1505 tank.

MAMMOTH 5-GALLON TANK $695

Other models from $175. 2-year guarantee on all units.

SPECIFICATIONS

Interior Tank size (in.), 10W x 14L x 9½H. Tank Capacity, 5 gallons.

Submersible Transducers

Model NT-604 — Hermetically sealed heli-arc welded stainless steel case. Radiating face: 27 sq. in. Effective plane of radiation: 40 to 50 sq. in. (approx. 10" x 5"). Effective cavitation of volumes: up to 1200 cu. in. at 24" tank height (5 gal.) and 2400 cu. in. at 48" tank height (10 gal.). Swagelok tube fitting on side or end for internal tank wiring.

Model NT-605 — Same as NT-604 except for bulkhead fitting on back for external wiring. Eliminates electrical conduits in solutions.

Now you can say goodbye to expensive chemicals, solvents, and degreasing equipment . . . reclaim valuable floor space . . . eliminate high installation costs . . . just by installing a Narda Series 1500 SonBlaster. At the same time, you'll get better, faster cleaning, and you'll need fewer people to do the job!

Get the tremendous activity of the new 200-watt Narda SonBlaster, with the largest transducerized tank ever made, at the lowest price in the industry! Choose from transducerized tanks or submersible transducers for use in any arrangement in any shape tank you desire. Up to 4 submersible transducers can be easily operated from the same generator at one time; load selector switch provided — an exclusive Narda feature.

Simply plug the SonBlaster into any 110-115 V AC line, and flip the switch. In seconds, you'll clean 'most any mechanical, optical, electrical, medical or horological part or assembly you can think of. Perfect, too, for brightening, polishing, radioactive decontaminating, pickling, quenching and plating; emulsifying, mixing, sterilizing, impregnating, degassing, and other chemical process applications.

Mail the coupon for free help in determining the model that's best for you.

The SonBlaster catalog line of ultrasonic cleaning equipment ranges from 35 watts to 2.5 KW, and includes transducerized tanks as well as immersible transducers. If ultrasonics can be applied to help improve your process, Narda will recommend the finest, most dependable equipment available — and at the lowest price in the industry!

The Narda Ultrasonics Corporation
118-160 Herricks Road
Mineola, L. I., New York
Department NED-6

Gentlemen:
Please send me more information about
☐ Series 1500 SonBlasters
☐ The complete Narda line

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the narda ultrasonics corporation
625 MAIN STREET, WESTBURY, L. I., N. Y.
Subsidiary of The Narda Microwave Corporation

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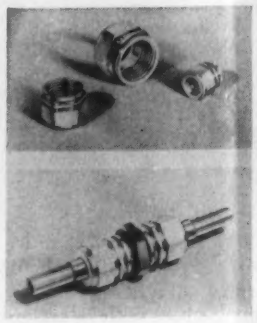
SELF-LOCKING COUPLING NUT for fuel, oil, refrigerant lines



Critical fuel, oil, and refrigerant lines subject to vibration can be tightly joined by the CN-8 Series self-locking coupling nut. Adaptable to either flared or flareless methods of tube sealing, the nuts resist loosening, even when not fully seated. Tests show 15-time re-use without impaired locking properties. Nine sizes from ¼ to 1½ in. are offered in cadmium plated steel for use to 550° F and silver-plated stainless steel for use to 800° F. They are interchangeable with AN 818 and MS 21914 coupling nuts. Made by **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

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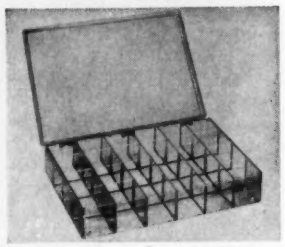
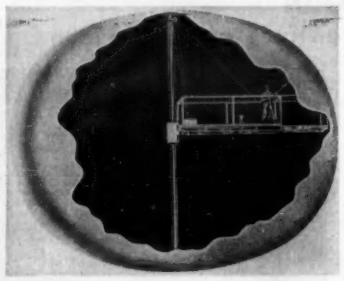
PLASTIC UTILITY BOX for small items has 24 compartments



This Model P-824, injection molded, clear polystyrene, utility box has 24 compartments for holding tacks, nails, screws, washers, buttons, and other small items. Top is attached by three heavy-duty heat-sealed hinges. Box measures 13⅛ x 9 x 2 5/16 in. Made by **Vlchek Tool Co.**, 3001 E. 87th St., Cleveland 4, Ohio.

▲ For more details circle **NED-396 C9** on enclosed inquiry slip ▲

WELDED STEEL SCAFFOLD for working inside spheres



Relatively light in weight, this welded steel scaffold is especially designed for working inside spheres. Easily handled by two men, scaffold requires the installation of a uniform diameter length of tubing from top to bottom of the sphere, plus a revolving ring to which a snatch block is attached. Longitudinal sections of platform telescope as platform approaches the top or bottom of the sphere. Entire assembly can be rotated around its axis to service every portion of the sphere. Scaffold can be fabricated for capacities from 500 to 1500 lb. Guard rails are demountable. Made by **Atlas Industrial Corp.**, 849 39th St., Brooklyn 32, N. Y.

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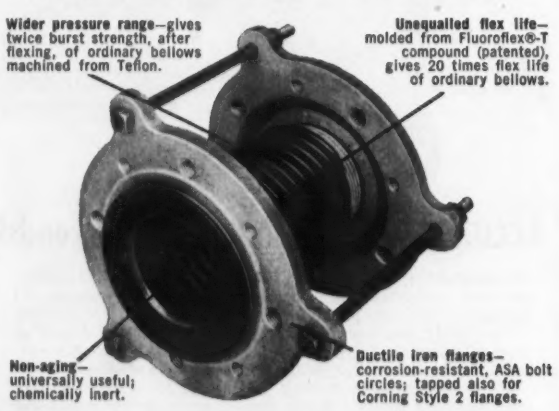
PERMANENT FLEX JOINTS

Molded from TEFLON®



Bulletin tells more about Fluoroflex joints. Write Dept. 210, RESISTOFLEX CORPORATION, Roseland, N. J. Other plants: Dallas, Tex.; Burbank, Calif.

RESISTOFLEX

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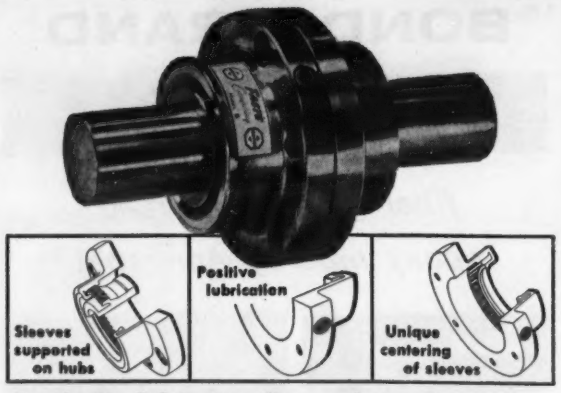

Fast's Model B Coupling reduces downtime and upkeep for light-to-medium drives!

Now you can profit from the durability and economy of famous Fast's couplings in a smaller and lower-cost version —available in 5 sizes for shafts ⅛" to 3⅛" in diameter.

The Model B coupling gives you the same features that have made Fast's the world's leading coupling for over 35 years. You get the same trouble-free performance, longer service life and lower maintenance costs. You also get prompt delivery because stocks are on hand to meet practically every need. Free engineering service is also available.

Write today for more details to KOPPERS COMPANY, INC., Fast's Coupling Dept., 5503 Scott Street, Baltimore 3, Md.

KOPPERS THE ORIGINAL FAST'S Couplings
Engineered Products Sold with *Service*

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A 36-page pump engineering manual is yours for the asking. It fully explains the 10 easy steps in selecting Viking rotary pumps. Ask for catalog KG.

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Available in 10 to 1050 G.P.M. sizes, these rugged Vikings are suitable for pressures up to 200 PSI. Complete with specifications, performance data, etc., they are illustrated in the 24-page catalog CG.

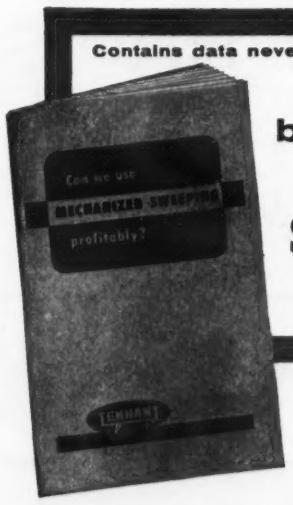
VIKING GENERAL PURPOSE PUMPS
These Viking Pumps — in ⅔ to 1050 G.P.M. sizes — are suitable for pressures up to 100 PSI. They are fully illustrated and have specifications, performance data, etc., in the 36-page catalog BG.

All Viking Pumps are positive displacement pumps and deliver either thin or thick liquids.

VIKING PUMP COMPANY
Cedar Falls, Iowa, U.S.A. In Canada, it's "ROTO-KING" pumps
See our Catalog in Sweet's Plant Engineer's File

▲ For more details circle **NED-400 C9** on enclosed inquiry slip ▲

Contains data never released before!



new booklet on Power Sweeping in congested areas

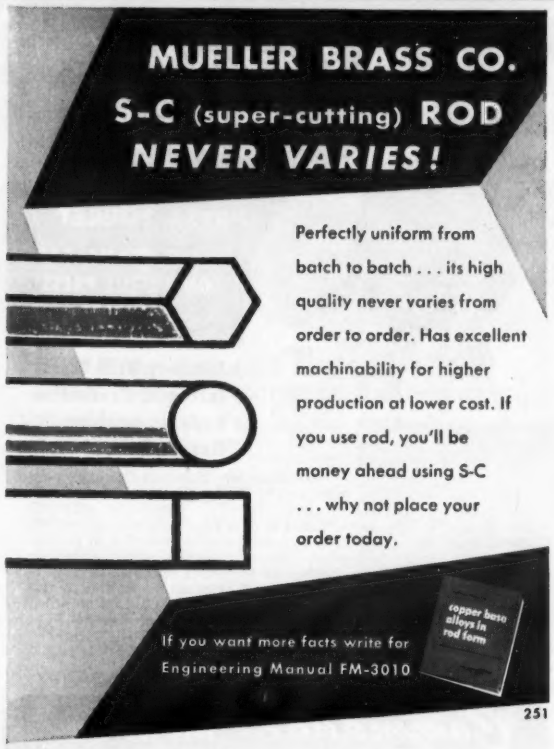
- What aisle widths are needed?
- Can dust and litter be swept at the same time?
- How does it compare with hand sweeping?
- What are 6 extra advantages of power sweeping?

Here, for the first time, are answers to questions on power sweeping in congested areas—all in this new 8-page illustrated booklet, *"Can we use Mechanized Sweeping profitably?"* Contains latest facts, figures on new sweeping techniques, cost-saving data, etc. *Write for your FREE copy.*

G. H. TENNANT CO., 715C N. Lilac Drive, Minneapolis 22, Minn.

TENNANT POWER SWEEPERS
SPECIALIZED MAINTENANCE EQUIPMENT

▲ For more details circle **NED-401 C9** on enclosed inquiry slip ▲



MUELLER BRASS CO. PORT HURON 37, MICHIGAN

▲ For more details circle NED-402 C9 on enclosed inquiry slip ▲

Patent Applied For

Rubber Spiral Conveyor Idler Prevents Sticky Material Build-up

Exclusive continuous rubber spiral "works" material off as it turns. Completely encloses wire rope supporting core, protecting against abrasion and corrosion.

LONG LIFE
Neoprene construction; high capacity sealed ball bearings; provision for relubrication.

CONTINUOUS BELT SUPPORT
Idler "moves" along entire width of belt.

SELF CLEANING
Continuous spiral ejects material before it builds up.

SELF TRAINING
Natural trough and elimination of material build-up helps belt run true.

EASY REPLACEMENT
Frame fits standard conveyor stringers; rubber spiral idler and bearing assembly instantly replaceable without tools.

Sizes for 18, 24, 30, and 36 inch belts are available in type shown, or with spreader frame for wire rope conveyor systems. Hewitt-Robins, Stamford, Connecticut. Ask for Bulletin 3-14.

HR HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS . . . POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE . . . VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

▲ For more details circle NED-403 C9 on enclosed inquiry slip ▲

How to stop rubber marks

Multi-Clean FLOOR DRESSING tends to reduce and eliminate marks on *all types of floors* and leaves a surface that's highly resistant to future rubber marks.

This outstanding mop treatment polishes and preserves while it cleans. Makes wax last longer, discourages development of bacteria and fungi, and increases slip resistance. U/L lists it as an anti-slip product.

Clear, light-colored FLOOR DRESSING doesn't discolor or build up in mop as ordinary mop dressings do. Has pleasing aroma.

For further information, see Multi-Clean Distributor or write . . .

MULTI-CLEAN Method

MULTI-CLEAN PRODUCTS, Inc.

Dept. Ne-40-39 277 Ford Parkway, St. Paul 16, Minn.

▲ For more details circle NED-404 C9 on enclosed inquiry slip ▲

HIGH SPIRAL FLUTE TAP
for use in variety of materials

Tap breakage occurring when chips clog the hole being tapped is virtually eliminated by the Turbo-Cut tap which provides optimum chip removal without sacrifice of accuracy. Chips created by the tap's cutting edges are moved upward in easy stages with continuous thrust. Upon reaching the surface of the workpiece, they are propelled away from the tap. Tap can be used for relatively long holes in most ductile materials, as well as in stainless steel and plastics. A range of sizes is offered. Made by **Threadwell Tap & Die Co.**, 230 Arch St., Greenfield, Mass.

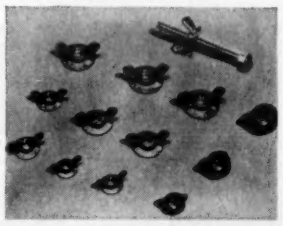
▲ For more details circle NED-405 C9 on enclosed inquiry slip ▲

WASHING MACHINE BRUSH
nylon bristles withstand soaking

Resistant to the harmful action of acids, detergents, and chlorine, these machine-operated washing brushes of Du Pont Tynex nylon withstand prolonged soaking in water without becoming soggy or limp. They perform a thorough brushing and cleaning action without damage to sensitive materials. Cores of the Metlkor brushes are cold drawn steel or aluminum tubing, with cast iron, steel, stainless steel, bronze, or aluminum heads. Made by **M. W. Jenkins' Sons, Inc.**, 444 Pompton Ave., Cedar Grove, N. J.

▲ For more details circle NED-406 C9 on enclosed inquiry slip ▲

WASHER WING NUT
now in 1/2 to 7/8-in. diameters



Line of CEW 3/4 - in. washer base wing nuts has been extended to include sizes from 1/2 to 7/8 in. diameters and thread sizes from 6-32 to 3/8-16. The zinc alloy nuts can have brass, gilt, bright nickel, or oxidized finishes. Washer, an integral part of the nut, provides a broad bearing base, allowing nuts to be used with soft structural materials like wood, or even cardboard. Other sizes with various threads are: Type AEW, 1/2 x 0.030; Type BEW, 5/8 x 0.032; Type CEW, 3/4 x 0.035; and Type DEW, 7/8 x 0.040 in. Made by **Gries Reproducer Corp.**, 400 Beechwood Ave., New Rochelle, N. Y.

▲ For more details circle NED-407 C9 on enclosed inquiry slip ▲

Quicker, Easier, Less Costly

STENCILING with REYNOLDS SPRAY STENCIL INKS

quick drying—waterproof

9 Colors—Each packaged in the handy easy-to-use 12 oz. Aerosol Container

Stenciling, color coding and identification marking have now become clean, quick and easy. Container sprays a dense, compact cone of specially formulated ink at the touch of a finger. Ink is very opaque. Dries in seconds. No smear, smudge or curtaining. Not to be confused with slow drying paints, lacquers and enamels. Easy to store. Always ready to use. No cans to open; no pots or brushes to load. No drying out, no waste, no mess. Saves time. Specify Reynolds,—the original, proven best ink **for any marking.** A trial will convince you!

GET FULL DETAILS! Write Today for Fully Descriptive Bulletin No. 58.

REYNOLDS INK, INC.
4504 EUCLID AVE.
CLEVELAND 3, OHIO

▲ For more details circle NED-408 C9 on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from 1/8 pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

▲ For more details circle NED-409 C9 on enclosed inquiry slip ▲

All-New Alemite "77" Lubricant Pump

packs most power

FOR SMOOTHEST DELIVERY!

★ 5.2 horsepower . . . 68% more powerful than any other lubricant pump of its class!

★ Lightweight, rustproof aluminum construction!

★ Delivers 19.7 lbs. of light-bodied lubricant per minute!

★ 3 models for all heavy-duty applications . . . all lubricants!

ALL-NEW

ALEMITE "77" FEATURES:

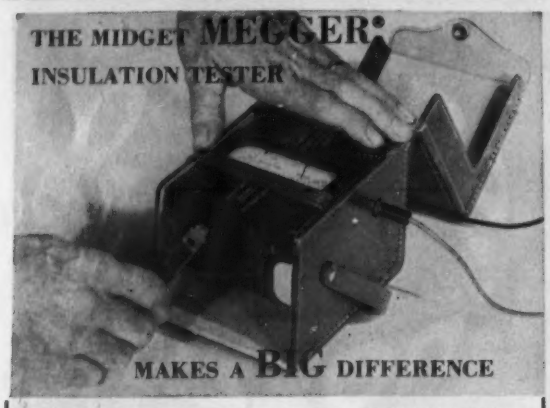
• Volume Air Distributing Valve has full floating slide, self-seating—self-cleaning—volume porting • Modern-Design, Highly Efficient Toggle Trip Mechanism provides balanced pressure on shuttle . . . won't bind • Straight-Line Exhaust has extra large orifice for highest pump efficiency • Hardened Steel Piston and Cylinder, lapped to a precision fit of 125 millionths of an inch • All-Steel Primer Valve, ground to perfect seal . . . hardened for abrasion resistance • Dynamic Primer assures priming and pumping of heaviest lubricants.

Write for free catalog today!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. AI-39, 1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-410 C9 on enclosed inquiry slip ▲



. . . IN MAINTENANCE PROBLEMS

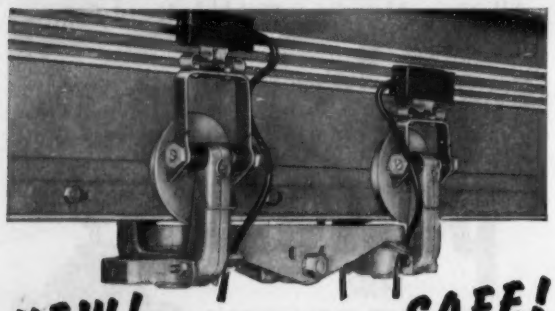
The operating span of electrical equipment can be shortened considerably by accumulations of *dirt* and *moisture*.

Only by periodic insulation resistance measurements can you be sure of the condition of electrical insulation in your machines. Test with a dependable Megger Insulation Tester and keep records of each piece of equipment.

For Convenience and Protection, use the MIDGET "MEGGER" INSULATION TESTER. Write for **BULLETIN 21-85-D.**

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle **NED-411 C9** on enclosed inquiry slip ▲



NEW! SAFE!

AMERICAN MONORAIL
KANT SHOCK
SHIELDED ELECTRIFICATION
For MonoRail Track and Crane Systems

By covering its standard bus bar electrification with a specially designed polyvinyl chloride extrusion, American MonoRail now furnishes completely safe electrified systems.

This KANT-SHOCK shielding absolutely prevents accidental contact with live bus bars. It is impossible for an adult's finger to enter the shield.

KANT-SHOCK Electrification positively eliminates all the hazards of open bar conductors—prevents costly accidents—protects employees—reduces insurance rates.

Write for KANT-SHOCK Bulletin KS-1

THE AMERICAN MONORAIL CO.
13116 ATHENS AVENUE • CLEVELAND 7, OHIO
(IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.)

▲ For more details circle **NED-412 C9** on enclosed inquiry slip ▲

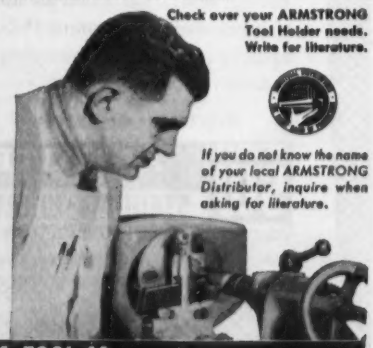
ARMSTRONG
TOOL HOLDERS

A Correct Tool for Every Lathe Operation

You can save time (and money) by ensuring that your machine tools are equipped with *adequate numbers* of the correct ARMSTRONG Tool Holders. The ARMSTRONG System of Tool Holders includes correctly designed tools for *every* standard operation on lathes, shapers, and planers, and for many operations on turret lathes and screw machines. By utilizing the ARMSTRONG System of Tool Holders, you can reduce tooling costs, eliminate down time in tooling up, operate your machine tools at maximum feeds and speeds.

ARMSTRONG Tool Holders are long-lasting tools. They are strong beyond need, handy and efficient, profitable to use, and are readily available from your local ARMSTRONG Distributor.

Check over your ARMSTRONG Tool Holder needs. Write for literature.



If you do not know the name of your local ARMSTRONG Distributor, inquire when asking for literature.

ARMSTRONG BROS. TOOL CO. 5245 N. ARMSTRONG AVE. CHICAGO 46, ILL.

▲ For more details circle **NED-413 C9** on enclosed inquiry slip ▲

TWO-WAY CONTROL VALVE
for air or hydraulic equipment

Adaptable to hydraulic or pneumatic applications involving pressures to 5000 psi, this two-way valve allows independently controlled flow in either or both directions. Threaded to Dryseal specifications in 1/8 to 3/4-in. sizes, it is available in brass, stainless steel, aluminum, steel, and alloys. It is easily adjusted with screwdriver and is precision machined. Made by **True-Flo Valve Co.**, 79 Bow St., Everett 49, Mass.

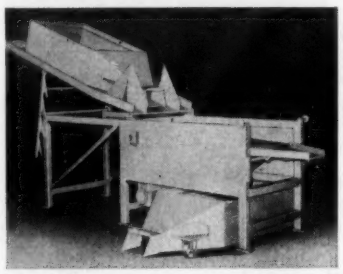
▲ For more details circle **NED-414 C9** on enclosed inquiry slip ▲

WET & DRY VACUUM
machine weighs only 25 lb

Wet solutions from scrubbing floors or shampooing rugs can be picked up by the Model UVM-905 portable vacuum cleaner. It also provides dust-free dry sweeping. The 25-in. high, 25-lb machine is easily carried up and down stairs. It is equipped with rubber tired casters, 10-ft vinyl hose, floor wand, master nozzle, felt-shod adapter, round dusting brush, and adapter sleeve. Made by **United Floor Machine Co.**, 7715 S. Chicago Ave., Chicago 19, Ill.

▲ For more details circle **NED-415 C9** on enclosed inquiry slip ▲

SCREEN SEPARATOR
for tumbling media and parts



Fast separation of tumbling media and processed parts is provided by this Model SS-3 screen separator. It has a variable speed drive, adjustable loading angle, and selection of interchangeable mesh 24 x 48-in. screens. Movement is adjustable from 0 to 2 in., with reciprocations variable from 185 to 450 per minute. Two models offer straight through front-to-back, or front loading and front discharge operation. Made by **Ramne Mfg. Co.**, 14915 Woodworth Ave., Cleveland 10, Ohio.

▲ For more details circle **NED-416 C9** on enclosed inquiry slip ▲

NOW A LOW COST Portable Drum ROTATOR
Safe... Fast... Economical

MORSE
MODEL 200

• MIXING • BLENDING
• TUMBLING • CLEANSING

Handles 30 and 55 gal. drums; 1 and 5 gal. containers with special attachment; weight capacities to 500 lbs. Weighs only 135 lbs. Available with 10, 20, or 40 rpm. Exclusive features assure smooth, thorough operation. Neoprene drive wheels are oil and chemical resistant. Retractable casters facilitate loading. Also available with explosion-proof or air-driven motors. Clip this ad to your letterhead for free MORSE Catalog.

Clip this ad to your letterhead for free MORSE Catalog.

MORSE MANUFACTURING CO., INC.
756 West Manlius Street, East Syracuse, N. Y.

▲ For more details circle **NED-417 C9** on enclosed inquiry slip ▲

Commander
SELECT A SPINDLE
DUAL SPEED DRILL PRESS TURRET
DRILLS, REAMS, TAPS ON 1 DRILL PRESS SPINDLE!

• **Fits Any Drill Press**
• **Increases Production**
• **Reduces machine, fixture costs**

Commander Select-A-Spindle permits you to do 3 operations on a single drill press spindle . . . save time . . . eliminate multiple handling of piece parts, speed production and reduce overall costs. Dual Speed Select-A-Spindle permits selection of proper speed for each operation. Quick, positive hand indexing positions each tool accurately for sequence operations. Select-A-Spindle is built to tap with any 1, 2 or all 3 spindles to the full capacity of the unit. Adjustable torque control spindles for protection of taps to 1/4" available.

Write for illustrated circular on Select-A-Spindle, other Commander Production Tools and name of your nearby Commander Distributor

Commander MFG. CO.
4220 W. KINZIE STREET, CHICAGO
PRODUCT OF COMMANDER . . . BUILDER OF PRODUCTION TOOLS

▲ For more details circle **NED-418 C9** on enclosed inquiry slip ▲

HOW TO ENGINEER SPECIFY ORDER PRICE...

AIR POWER CYLINDERS

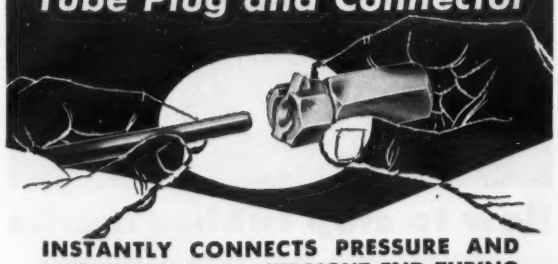
Here is complete engineering data on Hannifin's newest line of air power cylinders. Every mounting style is fully dimensioned in all sizes. Standard models or special modifications are made easy to specify. The price sheet, too, is easy to understand, easy to use.

Write for Bulletin 213-B.

HANNIFIN
Hannifin Company, 527 South Wolf Road, Des Plaines, Ill.
(Hannifin Company is a division of Parker-Hannifin Corporation)

▲ For more details circle **NED-419 C9** on enclosed inquiry slip ▲

New "Push On-Pull Off" Tube Plug and Connector



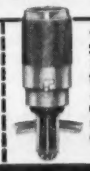
INSTANTLY CONNECTS PRESSURE AND VACUUM LINES TO STRAIGHT END TUBING

for AIR, WATER, STEAM, FREON, ETC.

Simply push the Connector over end of tubing and press to "stop" position. This **AUTOMATICALLY** locks tubing into place for a leak-proof seal. To unlock, press button and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for 1/4" to 1" OD tubing. Other sizes to order. Write for Calalog and prices.

"Quick-Seal" Self Sealing Test Plug. Uses test pressure to insure leak-proof seal. Capacities to 500 psi.

Expanding Seal Test Plugs and Filling Connectors.



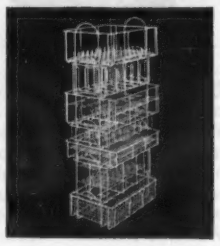
"Quick-Seal" Self Sealing Filling Connector — adapts and seals air or liquid pressure lines to openings.

MECHANICAL PRODUCTS CORPORATION
176 North Ogden Avenue • Chicago 7, Illinois

▲ For more details circle **NED-420 C9** on enclosed inquiry slip ▲

EEZY-STAK BASKETS
for Better Parts Handling

EEZY-STAK BASKETS SIMPLIFY PARTS HANDLING...CUT COSTS...REDUCE REJECTS!



WIPCO manufactures a complete line of Custom-Designed stacking (Eezy-Stak) and non-stacking baskets for handling all types of parts through every production and assembly process. WIPCO baskets can be made in any desired size or shape, and from any practical material.

Eezy-Stak baskets feature the exclusive Interlock Handle* which permits easy and safe stacking. Eezy-Staks are available in a wide range of standard sizes and metals which fit most parts-handling requirements.

Write for Bulletin B-54

WIPCO BASKETS... *FROM INITIAL MACHINING TO FINAL ASSEMBLY AND SHIPPING*

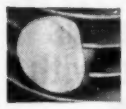
WIRE AND IRON PRODUCTS INC.

1727 SIXTEENTH ST. • DETROIT 16, MICHIGAN

For more details circle NED-421 C9 on enclosed inquiry slip

UNBRAKO self-locking socket set screws

Set them . . . forget them . . . they stay tight



UNBRAKO self-locking socket set screws with Nylok* lock by positive action that is not dependent on torquing. The tough, resilient nylon pellet—serviceable from −70 to +250°F—forces mating threads together, locks these screws securely, seated or not. They won't work loose. Use them in holes tapped in soft materials or against hardened shafts . . . as set screws or adjusting screws. Can be used repeatedly. Accurate sockets assure positive, non-slip wrenching. Heat treated alloy steel, continuous grain flow, fully formed Class 3A threads for high strength, exact fit. All standard points in sizes #4 to 1 in. Cup point only in sizes #0 to #3. Also in plated finishes and stainless. Request Bulletin 2193. Unbrako Socket Screw Division, STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

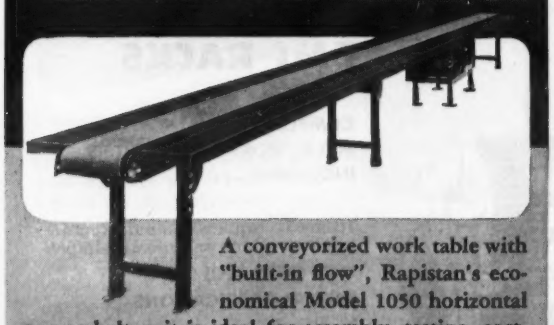
*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

For more details circle NED-422 C9 on enclosed inquiry slip

NEW! Rapistan® ASSEMBLY-LINE CONVEYOR



A conveyorized work table with "built-in flow", Rapistan's economical Model 1050 horizontal power belt unit is ideal for assembly, testing, sorting and packing operations. Available in lengths from 5′ to 60′, belt widths from 4″ to 24″, with ample work surfaces provided parallel to belt. Reversible belt travel. For permanent or portable installations.

SPECIFICATIONS
Write for Model 1050 Bulletin

Rapistan® new ideas in materials handling
The RAPIDS-STANDARD CO., Inc.
602 Rapistan Bldg., Grand Rapids 2, Mich.

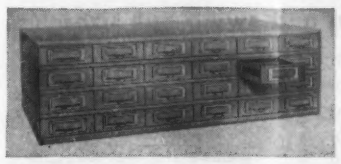
For more details circle NED-423 C9 on enclosed inquiry slip

ULTRAFINE DRILLER
fingertip control prevents breakage

Drilling of very small holes is simplified by this driller attachment for drill presses, lathes, and other machine tools. Drill breakage is reportedly minimized because operator can "feel" the correct cutting pressure. Drill life is also extended. It is packaged in kit. Made by **Hunter Tool**, Box 564, Whittier, Calif.

For more details circle NED-424 C9 on enclosed inquiry slip

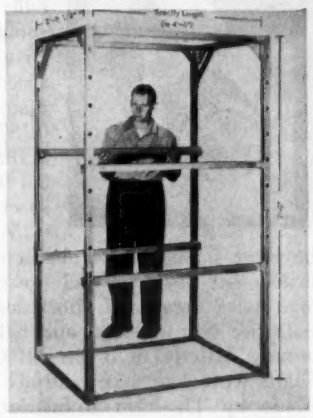
STORAGE UNITS
drawer-type offered in four sizes



Parts, tools, index cards, and other small items can be stored in Penco heavy gage steel, drawer-type storage units which can be used on benches, tables, counters, or placed in 36-in. wide by 12 or 18 in. deep Penco shelving units. All four models are 33½ in. wide and 10 11/16 in. high, but size and depth of drawers are modified for either 18 or 24-drawer compartments. Each drawer has three adjustable dividers and a combination drawer pull and identification card holder. Drawer stop prevents accidental opening. Units are available in green or gray baked enamel from **Alan Wood Steel Co.**, Penco Div., 200 Brower Ave., Oaks, Pa.

For more details circle NED-425 C9 on enclosed inquiry slip

ADJUSTABLE PALLET RACK
supports 2000 lb per shelf



Well suited to multiple storage requirements, this Shelf-Lok adjustable pallet rack will support 2000 lb per shelf or pallet. It can be front or back loaded, is relatively light weight and self-standing, and has galvanized finish. Front opening widths to 4 ft 4 in. are available. Rack is erected with simple tools. Cost of $39.95 includes one pair of adjustable support bars. Made by **Versabar Corp.**, 14 Whyte St., Jersey City 4, N. J.

For more details circle NED-426 C9 on enclosed inquiry slip

NEW Power Belt Conveyor

Rapistan® MODEL 400

Versatile power-belt unit conveys wide range of goods horizontally or on incline. Used for inter-floor applications or as low-cost booster in gravity flow systems. Serves as processing or assembly table in horizontal position.

SPECIFICATIONS
Write for Model 400 Bulletin

Rapistan® new ideas in materials handling
The RAPIDS-STANDARD CO., Inc.
603 Rapistan Bldg., Grand Rapids 2, Mich.

For more details circle NED-427 C9 on enclosed inquiry slip

★★★★★ ★★★★★

IN EVERY FIELD, THERE IS ONE FOREMOST NAME . . . IN SONIC ENERGY, THAT NAME IS BENDIX

WHAT'S ALL THIS TALK ABOUT SONIC ENERGY CLEANING?

Sonic Energy Cleaning is *a practical production tool* that will reduce rejects on many parts and products, lower cleaning costs and improve product performance.

So there's plenty of good reason for all the talk about Bendix Sonic Energy Cleaning.

Bendix® pioneered and has led in development of Sonic Energy Cleaning for industrial applications and so has more Sonic Energy experience. Our Sonic Energy Applications Laboratory has no equal in its ability to provide the most efficient answer for cleaning applications that can use Sonic Energy to advantage. And our line of Sonic Energy Cleaning systems is most complete.

It makes real sense for any manufacturer to utilize the *Bendix* way of investigating his application and verifying any equipment requirements.

NEW, UP-TO-THE-MINUTE REPORT ON SONIC ENERGY CLEANING

Explains in detail the principles and workings of this process. Illustrates, describes and analyzes typical results. Outlines five-step plan to help you determine feasibility of Sonic Energy Cleaning for you. To get your copy, write: PIONEER-CENTRAL DIVISION, BENDIX AVIATION CORPORATION, 2717 HICKORY GROVE ROAD, DAVENPORT, IOWA.

Bendix AVIATION CORPORATION — SONIC ENERGY CLEANING

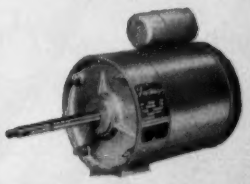
For more details circle NED-428 C9 on enclosed inquiry slip

SELECTING TORQUE MOTORS

• Torque motors are special from the word go. That makes Peerless one of the best sources for torque motors in ratings from 2 oz. in. to 200 lb. ft.

All standard frame sizes; all types of mountings; high torques; special paint and varnish treatments; and Class A, B and H insulation are available. Peerless engineers will work with you to produce the torque motor that powers your product best.

WEATHER-TIGHT SPECIAL FLANGE



SPECIAL FLANGE REVERSING HOIST MOTOR SINGLE PHASE

FREE—NEW TORQUE BULLETIN

This bulletin outlines basic facts about Peerless torque motors and shows applications. Write for it today.

ELECTRIC MOTOR DIVISION
THE Peerless-Electric® COMPANY
FANS · BLOWERS · MOTORS
1527 W. MARKET ST. • WARREN, OHIO

For more details circle NED-429 C9 on enclosed inquiry slip

R-K's NEW 2″ pitch overhead conveyor trolleys are really RUGGED

Greater capacity, too — (135 lbs.) with our NEW No. 3 trolley. The trolley wheel is a screw machine product designed for easy rolling, trouble-free operation. Available with neoprene or felt seals. Trolley brackets, center link and "H" attachment are rugged steel forgings.

Write for this new bulletin illustrating cost-cutting applications for Rapistan-Keystone overhead conveyor.

R-K No. 3 trolley features fully-machined wheels, hardened raceways, twelve 5/16″ ball bearings, replaceable grease fitting with ball check device for positive lubrication.

Rapistan®-KEYSTONE, INC.
21752 West Eight Mile Road, Detroit 41, Michigan

For more details circle NED-430 C9 on enclosed inquiry slip

MAGNETIZE!

for space-saving vertical conveying

DINGS permanent, non-electric magnetic rail assemblies cut handling costs, increase capacity, and save space in handling steel products. Parts, cans, bottle caps, nails, scrap, stampings can be quickly conveyed up or down at any angle by continuous, guaranteed-permanent magnetic force. No electricity is required. No failure is possible. Dings will gladly cooperate with your engineers in designing magnetized conveyors that can save you hundreds of dollars.

Bulletin 1211-A describes and illustrates a wide variety of applications. Send for it today.

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave., Milwaukee 46, Wisc.
CM-158-1/9

For more details circle NED-431 C9 on enclosed inquiry slip

No seams across fingers! That's why this American Optical Gunn-type glove gives you maximum resistance to wear. Specially selected chrome tanned cowhide means tougher, more flexible protection for welders. Look for the AO Trademark on the cuff — it means each glove meets rigid standards for maximum wear, heat resistance, flexibility and comfort — at no extra cost. Your nearest AO Safety Products Representative can supply you.

Always insist on AO Trademarked Safety Products.

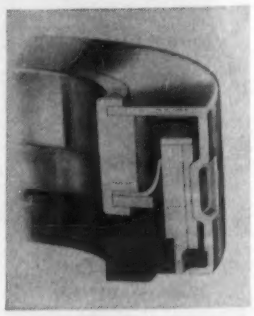
Safety Service Centers in Principal Cities.

American Optical
SAFETY PRODUCTS DIVISION
SOUTHBRIDGE, MASS.

For more details circle NED-432 C9 on enclosed inquiry slip

For more details circle NED-433 C9 on enclosed inquiry slip

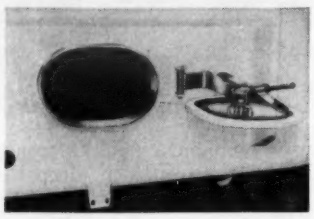
ALL-METAL SHAFT SEAL
functions in −65 to 850° F range



All components of this Met-L-Seal shaft seal except the seal face are made of various high - temperature alloy steels. Face materials are carbon graphite or various exotic alloys. Seal functions at temperatures from −65 to 850° F. Hydraulic balance produces optimum sealing under both static and dynamic conditions. Seals can be washed in any solvent without damage to internal parts. Made by **Gits Bros. Mfg. Co.**, 1866 S. Kilbourn Ave., Chicago 23, Ill.

For more details circle NED-434 C9 on enclosed inquiry slip

MANWAY ASSEMBLIES
two swing-in and swing-out sizes



Manway assemblies for installation where appearance is a factor combine modern appearance with ease of operation and installation. Available are 15 x 20 and 13 x 18-in. sizes with a steel door lined with Lastiglas, and with a solid stainless steel door. Both sizes and door types are offered for swing-in and swing-in—swing-out service. Made by **Bishopric Products Co.**, 4411 Este Ave., Cincinnati 32, Ohio.

For more details circle NED-435 C9 on enclosed inquiry slip

LINEAR BALL BUSHINGS
for 0.1246 and 0.1871-in. shafts

Despite their small size, INST - 258 and INST - 396 ball bushing contain three complete ball circuits with 16 and 17-balls content, respectively. They accept shaft diameters of 0.1246 and 0.1871 in. Dimensions are 0.3125 and 0.375 in. OD and 0.5 and 0.562 in. long, respectively. Weights are only 0.15 and 0.30 oz. Bushings have the supersensitive characteristics of larger, heavier instrument bushings and are capable of withstanding high vibrational and shock loads. Outer sleeve and balls are stainless steel and ball retainer is brass. Alternate material is Type 52100 chrome-bearing steel. Shafts with 2 to 4 rms surface finish can be supplied. Made by **Thomson Industries, Inc.**, 1029 Plandome Rd., Manhasset, N. Y.

For more details circle NED-436 C9 on enclosed inquiry slip

Clecomatic automatic screwdriver-nut runner EXCITES PRODUCTION PLEASES MANAGEMENT

Feather light and midnight quiet, Clecomatic makes s-p-e-e-d-y production a sure bet. Clecomatic starts and stops automatically while maintaining positive torque control. There's no throttle, no stalling! An exclusive Cleco mechanism starts the Clecomatic when the bit engages the screw or nut, then shuts it off when the screw is tightened to precise, preset torque specifications.

The Clecomatic air motor operates only during actual rundown. Less air is required per job. Tool wear is greatly reduced. Clecomatic has earned management's enthusiastic approval because no other air tool offers such outstanding economy and efficiency.

WRITE today for descriptive literature on Clecomatic—the one of a kind automatic screwdriver-nut runner.

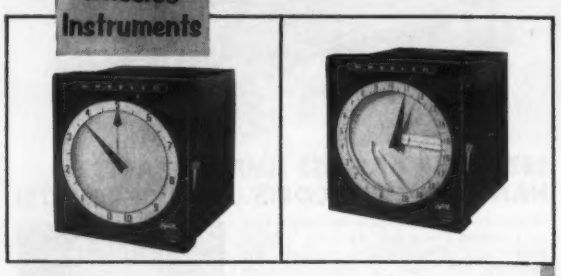
Division of REED ROLLER BIT COMPANY
P. O. Box 2119 • Houston 1, Texas, U.S.A. • In Canada: Cleco Pneumatic Tool Company of Canada, Ltd., 927 Millwood Road, Leaside (Toronto), Ontario

CLECO AIR TOOLS

For more details circle NED-437 C9 on enclosed inquiry slip

THE MARK OF QUALITY
BARBER COLMAN
Wheelco Instruments

New round chart instruments offer "top level" performance



Circular chart recorders, recorder-controllers, indicating controllers, and program controllers in new Wheelco line are all self-contained, null balancing instruments. Thermocouples, radiation pyrometers, or transducers for resolving speed, strain, pH, etc., can be used. Three-function control forms, time-proved constant voltage source, are among outstanding Wheelco features. Write today for more details.

BARBER-COLMAN COMPANY
Dept. N, 1514 Rock Street, Rockford, Illinois

For more details circle NED-438 C9 on enclosed inquiry slip

put your upper space to work!

get your materials off the ground with EMI RACKS

you can stack or ship anything in any industry on EMI RACKS

WELL STACKED

COMPLETE METAL WORKING FACILITIES INCLUDING . . .

TUBING—Square, Round, Rectangular and special shapes
WIRE MESH—All Gages
SPECIAL FABRICATIONS

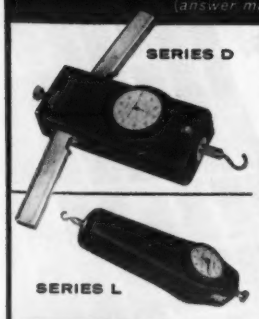
Write for complete catalog!

EQUIPMENT MFG. INC.
21566 HOOVER ROAD
DETROIT 5, MICHIGAN

For more details circle NED-439 C9 on enclosed inquiry slip

PRECISION FORCE GAGES

(answer many test standard requirements)



Hunter Mechanical Force Gages are precision-built, direct reading instruments for measuring forces in tension and compression. Are accurate to within 1% of full-scale. "Hold-at-maximum" indicator available as optional feature. Types and sizes available for measuring forces ranging from 0-500 grams to 0-200 pounds.

Standard part of military aircraft kit, Force Gage is a tool for adjustment of controls.

Force Gage is fixture held to test precise electrical assemblies.

Plastics manufacturers use Force Gage to test bond strength of foil coatings on laminates

Thousands of force gages now used for inspection, testing, quality control in labs, on production lines, in the field.

WRITE FOR BULLETIN 750C

HUNTER SPRING COMPANY
14 Spring Avenue, Lansdale, Pennsylvania

▲ For more details circle NED-440 C9 on enclosed inquiry slip ▲

YOU CAN PROFIT BY USING GENERAL PLATE CLAD METALS

Ulanet Thermostats Value Continued Material Uniformity in TRUFLEX parts and assemblies

"Bimetal is a most important component in Ulanet Thermostats which have a world-wide reputation for quality. Therefore we must be certain of continued material uniformity and quality with each shipment.

"During our 22 years' experience with General Plate's TRUFLEX *thermostat metals we have found that they have met our exacting specifications,"* writes H. Ulanet, President, George Ulanet Co.

General Plate can supply dependable thermostat metal parts and assemblies for installation in your products, too. You'll get top performance because the high quality of each piece you receive is consistently uniform — an exact duplicate of the original.

General Plate TRUFLEX thermostat metal parts and assemblies are made to meet your specific needs for temperature range, electrical conductivity and corrosion resistance.

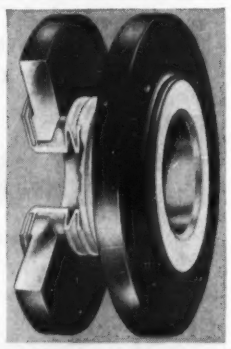
Send us your specifications for parts or strip — we'll be pleased to quote; or write for catalog.

Specially Designed Industrial Thermostat.

METALS & CONTROLS CORPORATION
General Plate Division
1803 Forest Street, Attleboro, Mass.

▲ For more details circle NED-441 C9 on enclosed inquiry slip ▲

Here's The Plain Truth About CHEMLON® Flexible Pipe Connectors



Chemlon Pipe Connectors are fabricated from chemically-inert DuPont Teflon and will handle practically all known acids, corrosives and solvents at pressures to 75 psi. They will withstand continuous flexing over a temperature range from −65° to +350° F. Severest vibration and misalignment causes little deterioration, and the connector acts as both an accoustical and mechanical dampener.

Other features: (1) Chemlon fabrication assures Teflon of high and uniform density; (2) wall thickness is uniform throughout convoluted area; and (3) bellows are formed at full free length to reduce residual and working strain to an absolute minimum.

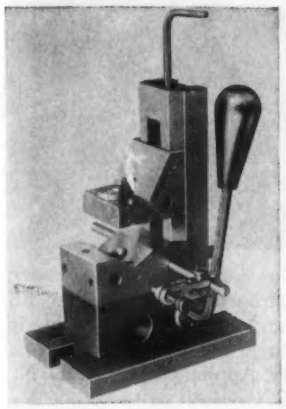
Supplied to fit any pipe size from ½ to 12" and available with companion flanges conforming to American Standard Class 125 Cast-Iron Pipe Flange specifications.

Request full information. Crane Packing Co., 6411 Oakton St., Morton Grove, Ill. (Chicago Suburb)

CRANE PACKING COMPANY
OFFICES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-442 C9 on enclosed inquiry slip ▲

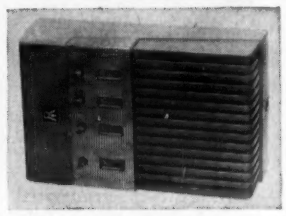
DRILL JIGS have 1/32 to 2⅛-in. capacity



Bushing hole in the lower jaw of Model No. 1 drill jig permits drilling through the top or bottom of the jig, and also serves to locate special anvils when necessary. Tapped holes are provided to secure the jig to the user's base. Model No. 2 jig is similar, but has a crank-lock base for fast action. Made from alloy steel bar stock, the jigs have 1/32 to 2⅛-in. capacity. Six bushings from 1/16 to ⅜ in. are furnished. Without bushings, ½ in. holes may be drilled. Standard ASA bushings with 5/16 or ½-in. bodies can be used. Made by McCullough Mfg. Co., 14581 Lesure, Detroit 27, Mich.

▲ For more details circle NED-443 C9 on enclosed inquiry slip ▲

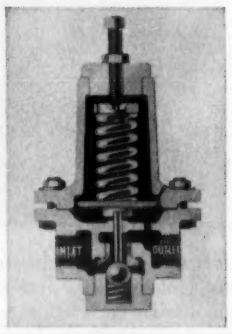
FIRE ALARM-ANNUNCIATOR for auditory and visual detection



Annunciator added to previously available alarm, enables this Dictograph AL-5 fire alarm to give both auditory and visual fire detection. It indicates location of fire with highly visible bulls-eye lamps and sounds an audible vibratory alarm. Compact unit is housed in aluminum and plastic casing. Made by Fire Detective, Inc., 300 Chancellor Ave., Newark 12, N. J.

▲ For more details circle NED-444 C9 on enclosed inquiry slip ▲

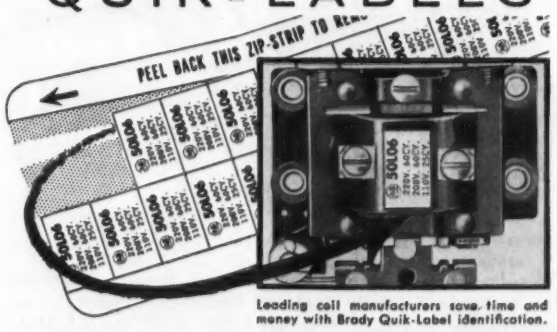
PRESSURE REDUCING VALVE withstands 300-psi initial pressure



Steam, water, air, and non-toxic, nonflammable gases can be controlled by this RVA pressure reducing valve which has a semisteel body and hardened stainless steel valve seat. The diaphragm-actuated, direct-acting valve automatically reduces pressure and holds it despite changes in the high pressure line. Units are suitable for initial pressures to 250 psi at 450° F and 300 psi at 200° F. Adjusting springs are available for both RVA and RV (for OEM) valves with reduced pressure ranges from 0 to 20, 10 to 50, or 40 to 125 psi. Made by Clark Mfg. Co., 1830 E. 38th St., Cleveland 14, Ohio.

▲ For more details circle NED-445 C9 on enclosed inquiry slip ▲

BRADY Self-Sticking QUIK-LABELS®



Leading coil manufacturers save time and money with Brady Quik-Label identification.

ANY SIZE! ANY SHAPE! ANY COLOR!

- Special Labels, Markers, Seals, Signs . . . tailor-made to your specifications. Mounted on Blue-Streak® Dispenser Cards for fast, distortion-free application.
- Choose from 400 different self-sticking materials — including Vinyl, "Mylar*," Acetate films, Cellophane, Vinyl-Cloth, Glass Cloth, Aluminum Foil, and many more plastic films, cloths, papers and foils.
- Fast, low-cost marking; stick to metal, glass, wood or plastics. Write for Bulletin 132 giving complete details and case histories. Free Test Samples on request.

*Du Pont's Registered Trade Mark

W. H. BRADY CO. 769 W. Glendale Ave., Milwaukee 9, Wis.
Manufacturers of Quality Pressure Sensitive Tape Products.

Est. 1914 81

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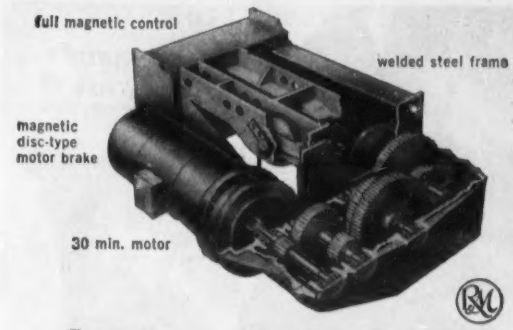

heavy duty hoist

CAPACITIES: ½ to 10 tons—Type F hoists, in four frame sizes, give you low headroom clearance plus rugged simplicity for demanding service. All-steel frame is welded for rigidity. R&M 1½ to 12½ hp motors have the highest time rating found in any standard hoist—30 min., 55° C. Load brake, three reductions of machined alloy steel heat treated gears and anti-friction bearings operate in splash oil bath. Motor brake is magnetic disc-type. Fully magnetic control features reduced push-button voltage. Wide choice of speeds and lifts. Plain, hand geared or motorized trolleys, or lug mounting. Request Bulletin 801-C today. **Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio.**

take it up with **ROBBINS & MYERS**
hoists cranes

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if it hangs from a crane... HEPPENSTALL CAN HANDLE IT

Automatic or manually operated tongs for any lifting or moving operation.

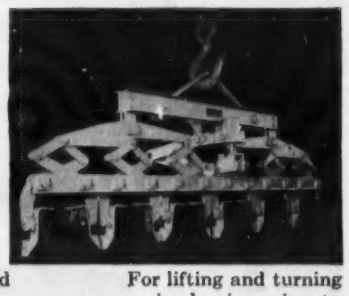
Loads of any shape, size or weight can be handled with speed, safety and economy by Heppenstall Tongs.

Special design features permit close, high stacking of raw materials and finished inventories with minimum aisle space.

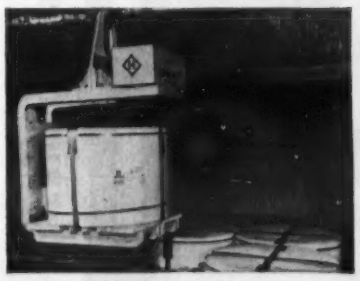
Other Heppenstall Tongs lift and turn objects simultaneously.

To protect finished surfaces, non-marring materials can be attached to gripping jaws.

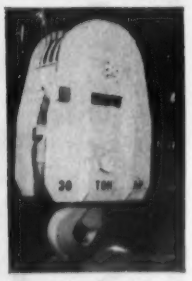
For lifting circular and cylindrical objects.



For lifting and turning six aluminum ingots.



Double C Hook, for lifting palletized loads.



Motorized rotating crane hook.

Remember . . .
if it hangs from a crane, Heppenstall can handle it.

HEPPENSTALL COMPANY
PITTSBURGH 1, PENNSYLVANIA
Material Handling Division • New Brighton, Pa.
PLANTS: Pittsburgh, Pa. • Bridgeport, Conn. Indianapolis, Ind. • New Brighton, Pa.

MIDVALE-HEPPENSTALL COMPANY
NICETOWN, PHILADELPHIA 40, PA.

DIE BLOCKS • FORGINGS • BACK-UP ROLL SLEEVES • RINGS • INDUSTRIAL KNIVES • MATERIALS HANDLING EQUIPMENT

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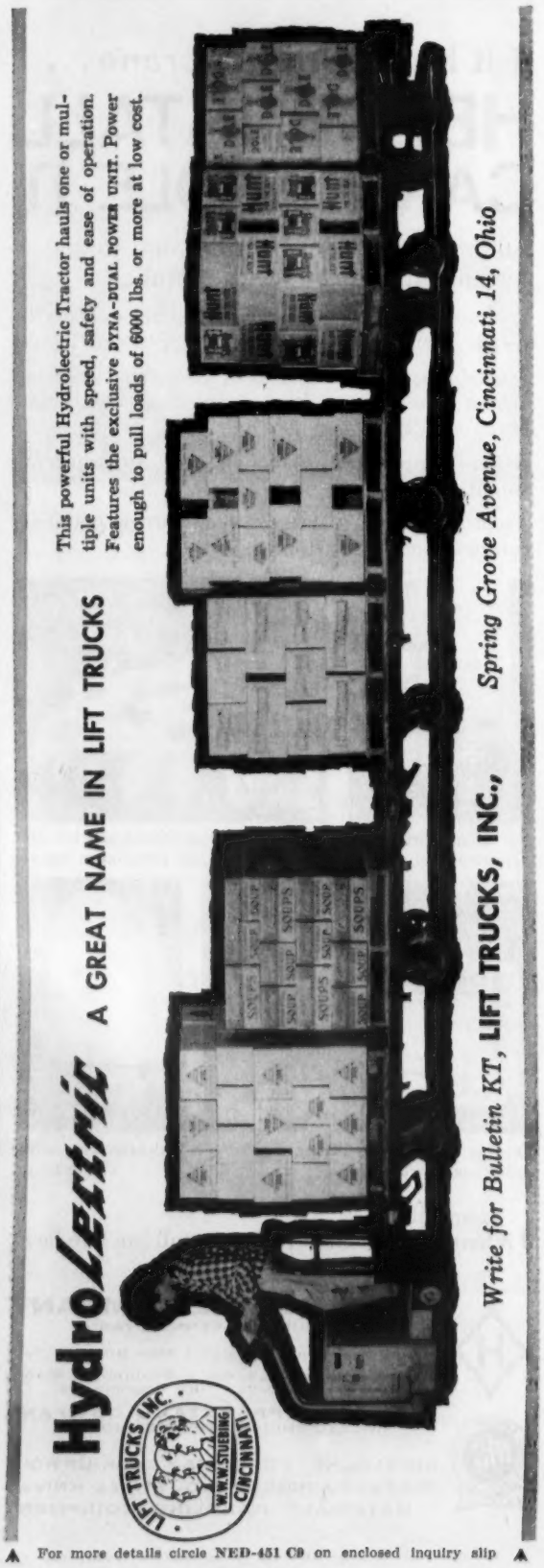
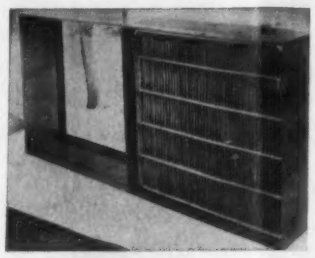
For more details circle NED-450 C9 on enclosed inquiry slip



For more details circle NED-451 C9 on enclosed inquiry slip

AIR FILTER
has 1000-cfm capacity



Protecting sensitive electronic gear and systems against damage from dirt and dust and filtering incoming air during the manufacture of photographic film are applications for the Dustfoe air filter. It is also suited for cleaning air in research laboratories and removing airborne bacteria. The filter has a 1000-cfm capacity and is 24 x 24 x 6 in. in size. Its element is held in a metal frame by clips. Available from **Mine Safety Appliances Co.**, 220 N. Braddock Ave., Pittsburgh 8, Pa.

For more details circle NED-452 C9 on enclosed inquiry slip

TITANIUM ANODE HOOK
in 3½ through 8 in. lengths

When used with nickel, chrome, or acid copper plating solutions, this titanium metal anode hook is practically indestructible. Hooks are not attacked chemically or electrochemically by the plating solution nor will they contaminate it. They can be placed completely under solution level without harm. Hooks will not generate gas or decompose brighteners. Made of ⅜ in. square stock, hooks are offered in 3½ through 8-in. graduated lengths to fit 1½ in. diameter anode rod size or less. Made by **Plating Products, Inc.**, 1515 N. Washington St., Kokomo, Ind.

For more details circle NED-453 C9 on enclosed inquiry slip

WATER COOLER
saves space and conceals plumbing

Installed flush against the wall, Wall-Line water coolers conserve space and conceal plumbing. Slip type fittings on standard trap facilitate installation, and unit extends only 12½ in. from wall. Other features are straight-through drain, high back-splasher to protect wall, and dual drink control for finger-tip or toe-tip operation. Also offered is a 6⅝-in. thin model which mounts readily in a wall or under a counter. Made by **Westinghouse Electric Corp.**, 653 Page Blvd., Springfield 2, Mass.

For more details circle NED-454 C9 on enclosed inquiry slip

ALL MUSCLE — NO FAT!

BROOK NEMA RERATE, TOTALLY ENCLOSED, FAN COOLED A.C. MOTORS

Take less space, weigh less, smaller frames than the Brook standard totally enclosed fan cooled motors—yet, performance is equal. 1 to 40 HP*. Built to N.E.M.A. specifications for rerated motors. Same resistance to dust, fumes and moisture as the larger, heavier, standard frame t.e.f.c. motors. Maximum economy and lower first cost because of Brook modern production techniques and world-wide volume distribution. Warehouses, Sales Representatives, and Dealers throughout the country. Write for literature.

*Standard frame t.e.f.c. motors available 1 to 600 HP.

world's most respected motor

BROOK MOTOR CORPORATION

3353 W. Peterson Ave., Chicago 45, Illinois
In Canada: BROOK ELECTRIC MOTORS OF CANADA, LTD. 250 University Ave., Toronto, Ontario

SINCE 1904 BROOK MOTOR CORPORATION

For more details circle NED-455 C9 on enclosed inquiry slip

Gary Galok* SUPER SERRATED ALUMINUM GRATING

Serrations scientifically designed to provide maximum positive footing. High strength to weight ratio, minimum deflection, maximum safety, corrosion resistant. Bars cannot turn, twist, loosen or fall out. Write for detailed specifications.

Gary SUPER Galok also available with plain bars. Sizes for every need.

*Patents Pending

Catalog N-39

ROCKWELL R STANDARD

ROCKWELL-STANDARD CORPORATION
GRATING DIVISION
4017 E. Seventh Ave., Gary, Indiana

For more details circle NED-456 C9 on enclosed inquiry slip

CARBIDE "THINSAWS"

FOR FAST, PRECISION SAWING, SLOTTING or SLITTING and LONGER SAW LIFE

Gay-Lee Carbide "Thinsaws" maintain positive alignment for full-depth cutting without run-out. "Thinsaw" thickness as low as .030" with tolerance held to .0001". Sizes from 1¼" to 10" O.D.

Patented carbide tip design and circular seat mounting assure maximum brazing area, positive seating and greater holding strength – tips will not break loose.

For fast, precision sawing, slitting or slotting of cast-iron, non-ferrous, plastics, wood, etc., use Gay-Lee Carbide "Thinsaws". Any tooth form available. For application recommendations, send details of your problem.

Patented—Manufactured under license.

GAY-LEE COMPANY
CLAWSON • MICHIGAN
CARBIDE SAW SPECIALISTS

For more details circle NED-457 C9 on enclosed inquiry slip

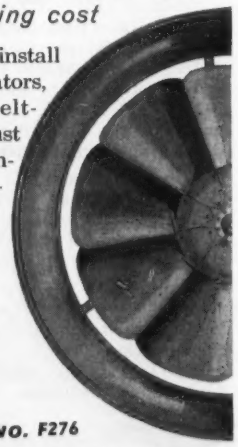
OSCILLATORS
AIR CIRCULATORS
EXHAUST

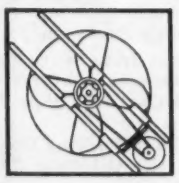
FANS

BY EMERSON-ELECTRIC

low initial cost
low operating cost

You save money when you install quiet, efficient fans — oscillators, air circulators and both belt-drive and direct-drive exhaust fans—backed by the Emerson-Electric famous factory-to-user guarantee.





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EMERSON ELECTRIC of St. Louis • *Since 1890*
8100 FLORISSANT AVE. • ST. LOUIS 21, MO.

For more details circle NED-458 C9 on enclosed inquiry slip

Cut fastening costs with PASLODE STAPLERS

On production lines: Used profitably in nearly every industry in manufacturing, assembly and shipping. Fasten wood, cloth, aluminum, hardboard, screen cloth, plywood and hard fibreboard.

In shipping rooms: Use to assemble cartons, drums, packing fillers, liners, etc.; to close bags, drums, corrugated containers; to fasten shipping tags, assembly instructions, moisture collectors.

There's a dependable Paslode hand or pneumatic stapler to help you cut costs. Send for description and prices today.

PASLODE COMPANY
Division of Signode Steel Strapping Company
5860 Northwest Highway, Dept. ED, Chicago 31, Ill.

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NOW AIR ANYWHERE ALONG THE LINE

At a fraction of present cost of installing RIGID PIPING!

5 for $1.45

No need NOW for complicated manifolding or rigid piping with this latest CLIPPARD MINIMATIC time and money saver! Just string CLIPPARD SOLDER TUBE OUTLETS like beads to any desired position, even on curves, sweat solder, drill or punch tubing and blow out chips. Then simply screw in any of CLIPPARD'S large assortment of fittings or quick-connects, and you have outlets where you want them! Order NOW from nearest distributor or direct. Do you have our literature showing complete MINIMATICS line?

Clippard Minimatic TRADE MARK

MINIATURE AIR VALVES, CYLINDERS, SOLENOIDS, FITTINGS, ACCESSORIES

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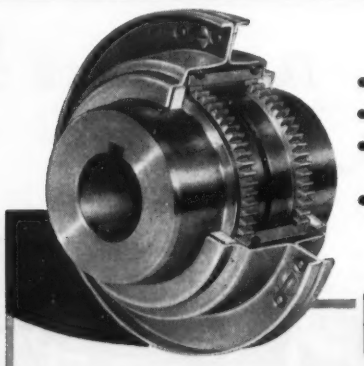
Clippard INSTRUMENT LABORATORY, INC.
7390 Colerain Rd., Cincinnati 39, O. • Phone: JAckson 1-4261
Manufacturers of Miniature Pneumatic Devices, R.F. Coils, Electronic Equipment

▲ For more details circle NED-460 C9 on enclosed inquiry slip ▲



- New, low price
- Easy assembly
- Protection against misalignment
- Light-weight, all-metal design

NEW!

LINK-BELT geared flexible MOTOR COUPLINGS

Here's a new, flexible coupling at a new, low price . . . *geared* to make it practical on small electric motor applications. All-metal design assures high capacity and durability. Protects machinery against the harmful effects of shaft misalignment. Available from stock for shafts up to 1⅞" from Link-Belt factory branch stores and authorized stock-carrying distributors. 14,951

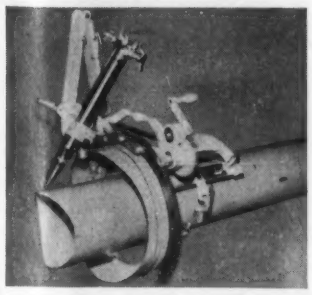
Send for Folder 2875 . . . complete selection and features data

LINK-BELT GEARED FLEXIBLE COUPLINGS

LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill.

▲ For more details circle NED-461 C9 on enclosed inquiry slip ▲

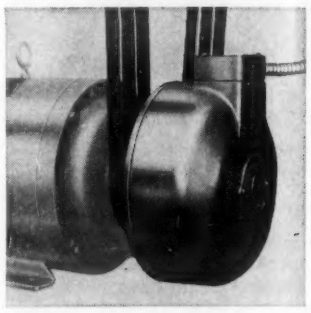
PIPE CUTTER & BEVELER has two improved attachments



Redesigned shape cutter attachment for standard pipe cutting and beveling machines will cut various shapes of pipe intersections automatically. Light in weight, it is easily mounted. The out-of-round attachment (*NED*, Oct. '57) is improved by the addition of a free-wheeling roller assembly to make corrections automatically for out-of-round imperfections in the pipe. This roller rides on the surface of the pipe and turns 360 degrees. Made by **H & M Pipe Cutting & Beveling Machine Co.**, 2010 S. Utica, Tulsa, Okla.

▲ For more details circle NED-462 C9 on enclosed inquiry slip ▲

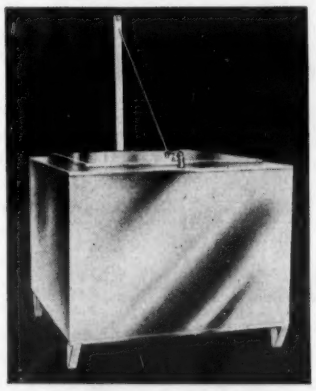
CLUTCH & SHEAVE COMBINATION for ½ to 50-hp drive requirements



Shaft - mounted Cyclesheave electromagnetic clutch and sheave combination is readily installed on electric motor or other shaft extensions without need for additional supporting members. Only connection of the low-current lead wires to the clutch is required. Units are available for ½ to 50-hp drives in a selection of sheave diameters and belt grooves to meet most drive requirements. Made by **Cycledynamics Inc.**, 19025 W. Davison Ave., Detroit 23, Mich.

▲ For more details circle NED-463 C9 on enclosed inquiry slip ▲

DRY ICE STORAGE CABINETS in 100 to 900-lb capacities



Designed expressly for storing dry ice, line of storage cabinets comprises capacities from 100 to 900 lb. Units have aluminum outer cabinets and heavy-gage welded galvanized inner liners. Lightweight Styrofoam insulation is 6 in. thick and assures rigidity along with excellent insulating and vapor-barrier properties. Made by **Simard, Inc.**, 337 Broadway, Lynn, Mass.

▲ For more details circle NED-464 C9 on enclosed inquiry slip ▲

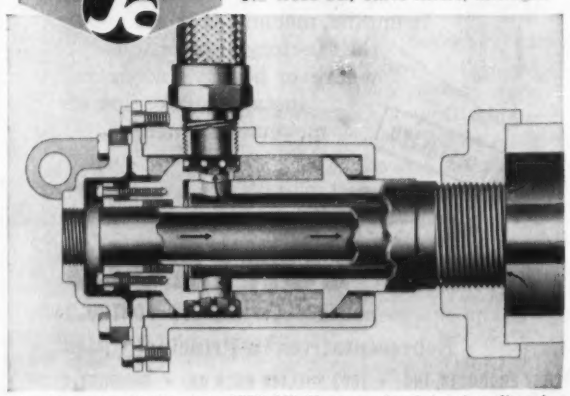
STANDS ALONE!

Type SN Johnson ROTARY PRESSURE Joint

There's not another rotary joint like the Johnson Type SN. Used where inlet or outlet pipe must rotate with the roll—on certain paper machines, drilled rolls of rubber or plastic mills and calenders, double shell dryers, and the like. Needs no external supports of any kind. Like all Johnson Joints the Type SN seals without packing, needs no lubrication or adjustment.

Investigate Johnson Joints for all steam-heated or water-cooled rolls. Handle Dowtherm, Monsanto Aroclors, hot oils too. Sizes to 8". For data on Type SN write for Bulletin N-2002.

THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Michigan



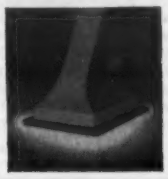
▲ For more details circle NED-465 C9 on enclosed inquiry slip ▲

If you can use shears you can CUT VIBRATION & NOISE

with low-cost **ISOMODE® PADS!**

A pair of shears and a standard package of Isomode Pads . . . that's all you need to isolate troublesome shock and vibration on as much as 80 tons of machinery.

Made of durable, resilient DuPont neoprene, these ribbed pads support up to 50 lbs. per sq. in.—do an effective job of muffling plant noise and reducing maintenance costs on machines and buildings.



Installation is utter simplicity—simply cut to fit machine feet and install. No waste, no fuss, minimum down time. Write for prices and Application Bulletin No. 415.

MB MANUFACTURING COMPANY
A division of Textron Inc.
1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-466 C9 on enclosed inquiry slip ▲

TWO MEN

from your regular plant crew

CAN MOVE YOUR HEAVIEST MACHINE

QUICKLY
EASILY
ECONOMICALLY

WITH . . .

MULTITON TRADE MARK

ROLLER SKIDS

and suitable tractive power

The days of wasteful extravagant roller-bar moving are gone. With a set of MULTITON roller skids you can move any load up to 300 tons more quickly, more easily and at lower cost than by any method previously devised. The MULTITON roller skid lays its own track as it moves easily over smooth or uneven surfaces. . . . It will *swivel, turn, steer* and position heavy loads accurately in tight quarters.

LET US SHOW YOU how to slash moving costs and plant disruption. MULTITON skids will pay for themselves in ONE MOVE, and save thousands in the course of a year. Write for free catalog and 12-page booklet on *Modern Methods of Heavy Equipment Handling and Hauling.* A demonstration in your plant can be arranged—at no cost, of course. P.S. Ask about the Multiton Junior Kit for moving loads up to 6000 lbs.

MULTITON PRODUCTS DIVISION
STOKVIS • EDERA & CO., Inc.
18 Secatoag Ave., Dept. NED-3, Ft. Washington, N. Y.

▲ For more details circle NED-467 C9 on enclosed inquiry slip ▲

IF YOU'RE

Handling Coil

CHECK THESE C-F LIFTER ADVANTAGES

- 1 Lifter handles wide range of coil sizes
- Requires minimum of only 10" to 12" between piles — saves storage room
- 1 man operation — eliminates hookers
- Positive grip on coil—no damage to material

• C-F Coil Lifters are saving time and labor in many plants and warehouses because they can pick up, carry and set down a coil of steel faster and safer than any other method. Infinite jaw openings permit handling a very wide range of coil widths . . . carrying legs open fast, stay open until operator closes them on coil. Narrow legs require minimum space between piles—a space saving advantage. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up.
Powered Rotating Heads available. Opening ranges to suit your requirements.

Write for illustrated Bulletin.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

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cut floor-to-floor time . . .
assure accuracy . . . with SP

POWER CHUCKS and ROTATING CYLINDERS

S-P POWER CHUCKS. Self-centering or compensating. American Standard or serrated, 2 or 3 jaws. Sizes, 6 to 18 in.

Famous S-P cam and lever design
- grips work tighter, resists jaw opening under load
- longer jaw travel, balanced for high rpm.
- flame hardened master jaw ways

installed as original equipment by leading manufacturers

S-P ROTATING CYLINDERS. Sizes, 3 to 16 in. bore (air), 3 to 8 in. bore (hydraulic, 500 psi).

Air and hydraulic
- weight-saving design, long stroke, compact inlet
- balanced for high rpm, American Standard mountings, finished adapters available

Representatives in principal cities. Phone or write for Catalog No. 112

SP for speed and performance — THE S-P MANUFACTURING CORPORATION SOLON, OHIO

NON-ROTATING AIR AND HYDRAULIC CYLINDERS • ROTATING AIR AND HYDRAULIC CYLINDERS • POWER CHUCKS • COLLET AND DRILL PRESS CHUCKS • VALVES, ACCESSORIES
A BASSETT COMPANY • IN GREATER CLEVELAND • ESTABLISHED 1916

AA-7483

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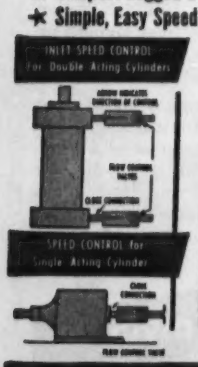
Pneu-Trol VALVES

★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

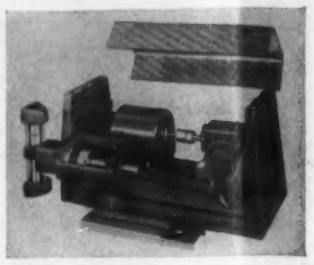
Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—⅛" to ¾". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

Write for illustrated circular and prices.

PNEU-TROL, INC.
A DIVISION OF AUTO-PONENTS, INC.
2929 W. Grant Street • Bellwood, (Chicago Suburb) Illinois

▲ For more details circle NED-470 C9 on enclosed inquiry slip ▲

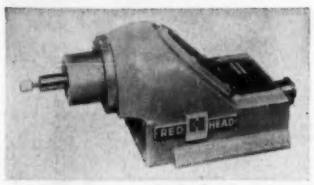
METERING PUMPS deliver fraction to 1030 gph



Four models of Masterline metering pumps accurately deliver fluid through a range from a fraction of a gallon to 1030 gpm. They are powered by standard NEMA foot - mounted motors through separate speed reducers. The check valve assembly features straight-through flow. Manual and automatic in-motion stroke adjustment is optional. Other options are multiple feeds, automatic and remote controls, and variable speed, pneumatic, and clutch drives. Made by **Hills-McCanna Co.**, 4600 W. Touhy Ave., Chicago 46, Ill.

▲ For more details circle NED-471 C9 on enclosed inquiry slip ▲

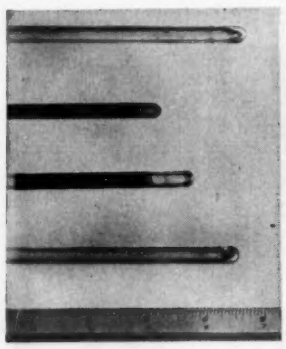
BELT-DRIVEN WHEELHEADS for spindle speeds to 100,000 rpm



Two interchangeable cartridges are available in these belt-driven wheelheads for grinding small diameter holes where surface speed of the wheel is critical. One operates at speeds of 45,000, 52,000, and 60,000 rpm, and the other at 70,000, 80,000, and 100,000 rpm. Pulley changes effect desired speed. They accommodate mounted point wheels. These vibrationless units are oil-mist lubricated and have a 4-in. center height. Made by **Heald Machine Co.**, 6 New Bond St., Worcester 6, Mass.

▲ For more details circle NED-472 C9 on enclosed inquiry slip ▲

THERMOCOUPLE TUBES immersion quartz type is clear



Made of clear quartz, these immersion thermocouple protection tubes assure accurate placement of platinum tips in the thermocouples prior to their insertion in molten metal. Outside diameters of 7½ to 8 mm and lengths as specified are available. They are used for single immersion and are impervious to above 2500° F. At top and bottom are clear tubes; the second from top is translucent except for a clear ½ in. at the sealed end, and the third is opaque at the tip. Made by **Charles Engelhard, Inc.**, 850 Passaic Ave., East Newark, N. J.

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HYDRAULIC REMOTE CONTROL SYSTEMS

Completely self-contained . . . single tube . . . remote control eliminates use of compensators. Rugged and reliable . . . used in engine, machine tool and many other factory applications . . . wherever positive, accurate, instant duplication of movement is needed . . . no "sponginess."

EASILY INSTALLED

Sperry CONTROLS
HYDRAULIC REMOTE CONTROLS
Representatives in Principal Cities
SPERRY PRODUCTS, INC. • 1603 SHELTER ROCK RD. • DANBURY, CONN.

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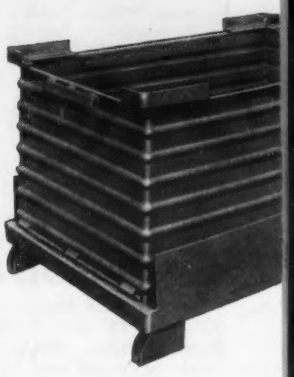
LOOK TO UN

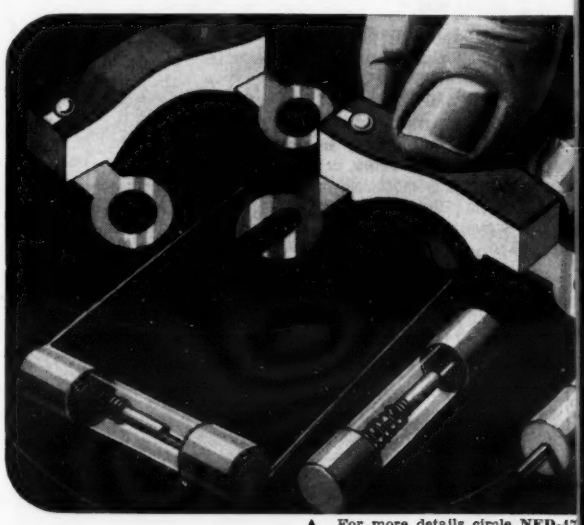
for boxes pallets skids



UNION METAL
Material Handling Equipment

▲ For more details circle NED-4

If overheating can cause trouble—
BUSS HEAT-LIMITERS
may be your a



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The Authorized S

Spherical, Cylindrical, Ball, and "Tyson" Tapered Roller Be

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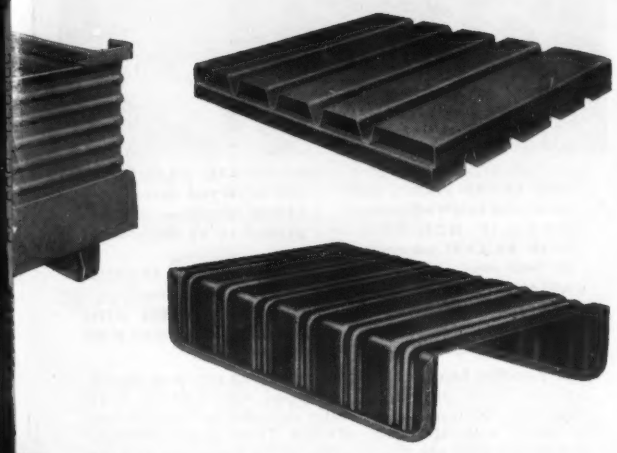
ION METAL



Detailed information covering advantages, features and complete range of designs is readily available.

THE UNION METAL MANUFACTURING COMPANY
Canton 5, Ohio • Brampton, Ontario

C9 on enclosed inquiry slip ▲

swer!

Typical applications for BUSS Heat-Limiters are: hair driers, air conditioners, hot lacquer sprays, refrigerator defrosters, ovens, cookers and other devices or apparatus where excessive heating or failure of temperature control might cause trouble or a hazard.

How BUSS Heat-Limiters operate: A BUSS Heat-limiter has a thermal cut-out that opens the circuit if anything causes the temperature to rise above its opening point.

Where thermostats are used, BUSS Heat-Limiters provide ideal back-up protection should the thermostat fail for any reason.

BUSS Heat-Limiters are available in many types and in many styles of terminals to suit requirements.

Tell us your problems and let BUSS engineers work with you to help solve it.

For more information write for bulletin PRO-1 . . . Bussman Mfg. Division, McGraw-Edison Co., St. Louis 7, Mo.

BUSS *Safety-Valve* HEAT LIMITERS

Another outstanding development by the makers of BUSS FUSES

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KF *Distributor carries a full line of bearings*

He can give you immediate delivery of almost any bearing—because he carries all types in countless sizes in his local stocks.

And if he should be "out," there's a nearby SKF regional warehouse that is completely stocked to back him up. So, why not consider his full line as your inventory and call him first? 5907

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

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ngs

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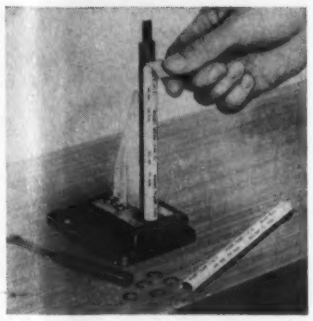
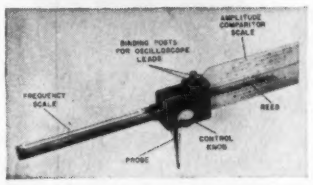
STACKED RETAINING RINGS offered in color-coded packages



Retaining ring installation is speeded, and handling and storage is facilitated by the Rol-Pak method of stacking which employs a wrapper of color-coded, pressure - sensitive tape. The retaining rings are loaded into a dispenser by sliding the entire Rol-Pak over the dispenser spring rail, then removing the wrapper. All or any part of the package may be used. Truarc Series 5103 crescent rings, Series 5133 rings, and Series 5144 reinforced E-rings are offered with this packaging. Latter two sizes accommodate shaft diameters from 0.094 to 0.375 in. Series 5103 rings fit 0.187 to 0.375-in shafts. Other sizes will be available. Ring dispensers now in use can be adapted to Rol-Pak use. Made by **Waldes Kohinoor, Inc.**, 47-16 Austel Place, Long Island City 1, N. Y.

▲ For more details circle NED-478 C9 on enclosed inquiry slip ▲

VIBRATION METER indicates frequency and amplitude



Lightweight, compact, hand-held reed Vibrometer measures vibration frequency and amplitude and determines the direction of maximum transmitted disturbances. It also locates the cause of unwanted noise due to resonant vibration and measures the speeds of rotating equipment where shafts or rotors are not readily accessible. Output of the Vibrometer's built-in electromagnetic pick-up can be attached to an oscilloscope or oscillograph. Full frequency range is 120 to 15,000 cpm. The 1-lb instrument measures $9\frac{1}{4}$ x 1 x $1\frac{5}{8}$ in. and sells for $55. Made by **Korfund Co.**, 48-19H 32nd Place, Long Island City 1, N. Y.

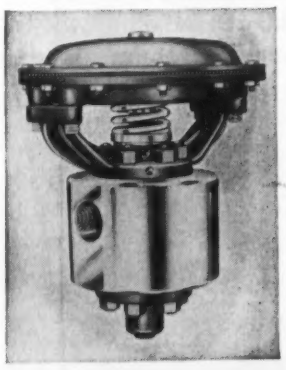
▲ For more details circle NED-479 C9 on enclosed inquiry slip ▲

TOGGLE CLAMPS offered in 16 configurations

Nonslip polyethylene handle, rapid adjustment with instantaneous release, Unichrome protective finish, and heat treated pins and bushings at pivot points are features of Series 5 toggle clamps. Sixteen different configurations have holding pressures from 325 to 500 lb. Made of carbon steel, they have a positive stop in both open and closed positions. Clamps have $2\frac{1}{4}$ or $3\frac{1}{2}$ in. long bars which move 115 degrees while the straight or T-handles move 60 degrees. Made by **Consolidated Equipment Co.**, Box 2216, Wichita 1, Kans.

▲ For more details circle NED-480 C9 on enclosed inquiry slip ▲

AIR CONTROL VALVES diaphragm operated type for 5000 psi



Smooth, shockless opening and closing at the maximum rated pressure of 5000 psi is a feature of this line of screw mounted, diaphragm operated air control valves. The fast response, leak - free units have sleeve type construction with aluminum bronze billet or alloy steel bodies and a replaceable stainless steel insert which maintains valve stem and seat alignment. Two and three-way normally-open and normally-closed types are offered in ½ and ¾-in. NPT sizes. Valves are actuated by any suitable pneumatic or electropneumatic pilot or cycle control unit, or by remote manual operation. Made by **Sinclair-Collins Valve Co.**, 454 Morgan Ave., Akron 11, Ohio.

▲ For more details circle NED-481 C9 on enclosed inquiry slip ▲

MAXIMUM WORKING FORCE IN MINIMUM WORKING SPACE

Air or Hydraulic

milwaukee CYLINDERS

- Quality Construction Throughout
- Guaranteed Top Performance
- No Costly Down Time
- Precision Designed — Heavy Duty Service
- Conforms to JIC Specifications

Get all the facts and see how Milwaukee Cylinders can save space and weight . . . Save on original cost and save on maintenance. *Write today for Free Bulletins A-100 and H-100.*

Standard Models Hydraulic Bore Size 1½ to 12" Air Bore Size 1½ to 14" *Specials built to your specifications*

MILWAUKEE CYLINDER CO.
Division of L. & M. Machine Company
5755 SO. PENNSYLVANIA AVE., CUDAHY, WIS.

▲ For more details circle NED-482 C9 on enclosed inquiry slip ▲

"Foreman's Helper"

Servis Recorder Model M operates electrically, can be installed in foreman's office.

Makes a Record of
PRODUCTION TIME & DOWN TIME
of any machine

This device is called the SERVIS RECORDER. It gives you a precise work record of any machine. If a machine is idle the Servis Recorder reports exactly when and how long the delay lasted. Records are permanent, easy to read, easy to file. They enable you to improve scheduling, determine the cause of down time, and help you set rates.

Mechanical models which attach to machines, lift trucks or vehicles are also available.

WRITE TODAY!

WRITE TODAY! Full information will be mailed to you at once.

THE SERVICE RECORDER COMPANY
1013A ROCKWELL AVE. • CLEVELAND 14, OHIO

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NEW FREE BOOKLET

gives complete facts about Verifax Copying

- Explains *completely different* Kodak method which gives you 5 complete and accurate copies in 1 minute for 2½¢ each. Lists all the extras of Verifax Copying.
- Shows how all departments save with Verifax Copying, includes many valuable short cuts for boss and secretary.
- Describes complete line of Verifax Copiers priced from $99.50.

Write today for your free copy!

EASTMAN KODAK COMPANY
Business Photo Methods Division
Rochester 4, N. Y.

Kodak

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FREE BULLETIN ON MATERIAL-LEVEL INDICATING

. . . tells how you can have complete control and/or indication of the high or low level of dry pulverized or granular materials under 1" in size passing into or out of bins, silos and bunkers.

The dust-tight Fuller-Material-Level Indicator offers exact audible-visual indication and control despite any momentary surge or settling of material.

For the complete story, and your free copy of this useful and informative guide, write today for Bulletin I-5 B 1357 I-7

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

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For more details circle NED-485 C9 on enclosed inquiry slip

SAVE STORAGE SPACE

SAVE HANDLING TIME

Brown Sectional Stock Racks store more stock in less space. Handling is reduced to a short lateral movement instead of a long laborious end-haul.

Brown Racks are unique in both flexibility and economy. Spaced as required they can be easily relocated . . . they are neither cross-braced nor floor-bolted. Accessories, including base brackets and trays, increase usefulness.

Brown Racks are quickly installed, all components are slip-fitted together. No bolting, no tools.

WRITE TODAY for complete information on how low-cost Brown Stock Racks can help solve your storage problems. Brown Engineering Company, 129 No. 3rd Street, Reading, Pennsylvania.

BROWN *Flexible* **STOCK RACKS**

For more details circle NED-486 C9 on enclosed inquiry slip

HIGHEST ACCURACY AT A SENSIBLE COST

NEW
ELECTRONIC PRESSURE SWITCH
for pressure, vacuum, flow, differential pressure, liquid level

New manometer-type electronic pressure switch for alarm signalling and/or control gives extremely sensitive response on even very low ranges . . . will sense pressure increments as small as 0.003 oz./sq.in.

Consisting of a Meriam Contactor Manometer and a Manotac Electronic Relay Unit, the switch offers D.P.D.T. switching for each manometer contact point. Manotac Relay has convenient modular construction with interchangeable plug-in circuit cards, operates on 110V AC.

Available in a variety of ranges, the switch never requires recalibration, is rugged enough for in-plant service right on the process line.

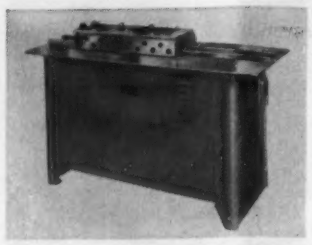
WRITE FOR BULLETIN A-11

THE MERIAM INSTRUMENT CO.
10920 Madison Avenue
Cleveland 2, Ohio

S.A. 1748

For more details circle NED-487 C9 on enclosed inquiry slip

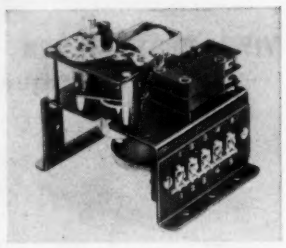
SEAM FORMING MACHINES
roll 40 to 45 ft of seams a minute



Increased power in Model 6 and 19 Lockformer seam forming machines enables one man to roll from 40 to 45 ft of Pittsburgh lock and other seams per minute. Now equipped with 3 and 2-hp motors instead of 2 and 1½-hp motors, the machines have a 58-in. work table in place of the former 48-in. table. Extended shafts for auxiliary rolls provide for double and standing seams, drive cleats, and right angle flanges. Machines can be set up for two different jobs without changeover. Sheet metal pieces of any length over 7 in. can be handled without manual adjustment for varying gages. Made by **Lockformer Co.**, Dept., NDC, 4615 W. Roosevelt Rd., Chicago 50, Ill.

For more details circle NED-488 C9 on enclosed inquiry slip

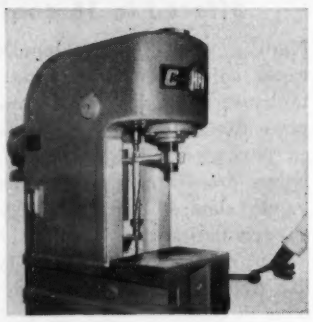
TIME DELAY RELAY
adjustable from 10 to 100 per cent



Control of machine tools, batch processes, heat treating, automatic mixers, electronic devices, and signalling equipment are applications for the Type 471 time delay relay. It provides an accurate, adjustable time delay between the operation of a control circuit and the subsequent transfer of one or two load switches. Ranges from 15 sec to 24 hr and from 10 to 100 per cent of full scale are available. Repeat accuracy is within 2 per cent, and reset time is about ½ sec. Switch ratings are 10 amp, 125 v or 5 amp, 250 v ac, resistive. Motor and clutch ratings are 115 and 220 v, 25, 50, and 60 cycles. Direct clutch is standard and a reverse clutch is optional. Made by **Cramer Controls Corp.**, Box 281, Centerbrook, Conn.

For more details circle NED-489 C9 on enclosed inquiry slip

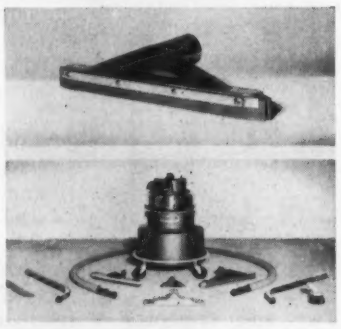
SERVO-CONTROLLED C-PRESS
ram speed completely under control



All actions of this servo-controlled C-press are under absolute operator control without space-taking linkages or attachments. When operator depresses the hand lever, a spiral cam connected to the ram turns the fast thread of a valve spool actuator. Slow or fast hand motion results in equivalent ram movement. Motion is positive and smooth. Press is particularly suited to straightening operations, because operator completely controls ram speed, travel, distance, and tonnage imposed on work. It can also be used in the laboratory, die try-out work, and compacting tests. Made by **Hydraulic Press Mfg. Co.**, 101 Lincoln Ave., Mt. Gilead, Ohio.

For more details circle NED-490 C9 on enclosed inquiry slip

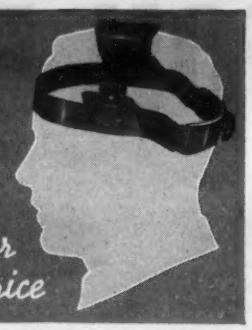
HEAVY DUTY SQUEEGEE
for industrial vacuum cleaner



This 21-lb wet and dry vacuum cleaner can be equipped with a heavy duty squeegee which enables floor wands to swivel 360 degrees to reach under low furniture and equipment. The diecast aluminum squeegee is 15½ in. wide. Its rubber blades conform to high, low, and irregular areas on the floor surface for even drying. The caster-equipped vacuum cleaner has a 7-gal wet pick-up capacity and features automatic water shut-off. Made by **Thompson & Sons, Inc.**, 8130 W. 47th St., Lyons, Ill.

For more details circle NED-491 C9 on enclosed inquiry slip

NEW CESCO Hed-Rite Headgear
— a Premium Quality Headgear at No Increase in Price



- **BROAD BEARING, PIVOTING CROSS STRAP,** with concealed height adjustment
- **NON-SLIP, NON-STRIPPING RATCHET** adjustment for head size
- **NYLANITE CONSTRUCTION,** non-shrinking, non-warping
- **20% to 25% LIGHTER** than previous headgears
- **CAMBERED HEADBAND** with offset rear strap
- **EBONY FINISH** resists degeneration by Ultra-Violet rays
- **NO RIVETS, NO EXPOSED METAL**—cannot snag hair
- **INTERCHANGEABLE WITH HARD HATS.** Snaps on or off in seconds

The **Hed-Rite** headgear may be worn with any face shield, helmet, hood or goggle equipped with CESCO X-12 brackets. Headgear is instantly detachable from helmet or shield without the use of tools. There is no electrical conductor between the interior of the headgear and the exterior of the shield or helmet.

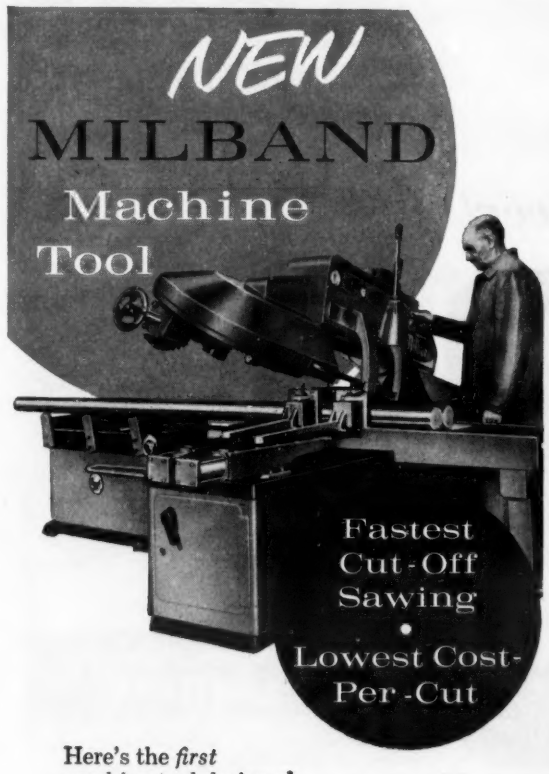
See your CESCO distributor or write for FREE descriptive folder

CESCO FOR SAFETY

CHICAGO EYE SHIELD COMPANY
2715 W. Roscoe St.,
Chicago 18, Illinois

For more details circle NED-492 C9 on enclosed inquiry slip

NEW MILBAND Machine Tool



Here's the *first* machine tool designed and built from the bottom up to provide the extra ruggedness and rigidity needed to handle high speed steel band blades with full efficiency. Cuts many times faster than other cut-off methods.

Cuts *consistently* straighter, smoother, more accurately and to closer tolerances. Fully automatic operation gives you more pieces per man-machine hour.

Narrower kerf with less chip loss means big savings in material.

GET THE COMPLETE TIME-AND MONEY-SAVING FACTS NOW . . . *write today for your free copy of Circular No. 501-58, containing full data on the new Milband Machine Tool.*

Saw Blade Specialists for Over 80 Years

THE HENRY G. THOMPSON & SON CO.

MILFORD — SAW & BAND SAW BLADES · HACK · HOLE SAWS · GROUND FLAT STOCK

276 CHAPEL STREET,
NEW HAVEN 5, CONNECTICUT

For more details circle NED-493 C9 on enclosed inquiry slip

QUICK, EASY, SAFE

parts removal

with Snap-on PULLER TOOLS

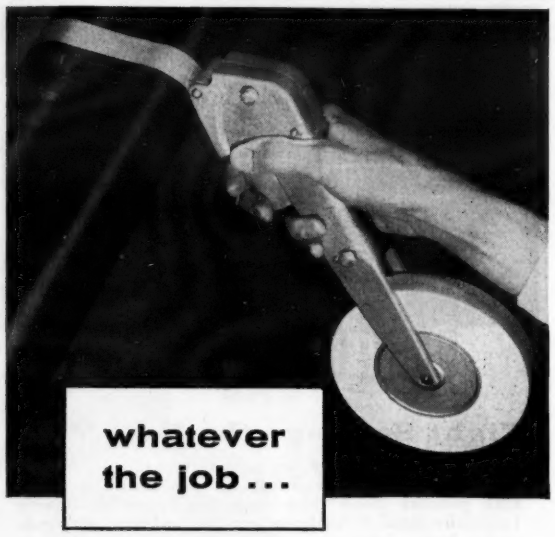
Save hours of labor, do a better job pulling gears, wheels, other parts with a *Snap-on* puller. Uniform pressure prevents binding, exerts smooth, easy power. You avoid costly damage by eliminating smashing sledge blows.

Use one puller set for many jobs with special adapters, reversible jaws, interchangeable parts.

Check your *Snap-on* sales engineer the next time he calls. Or write your nearest *Snap-on* branch.

SNAP-ON TOOLS CORPORATION
8110-C 28th Avenue • Kenosha, Wisconsin

▲ For more details circle NED-494 C9 on enclosed inquiry slip ▲



PERMACEL STRAP-IT
TRADEMARK
Pressure Sensitive Tape Dispenser

PERMACEL *New Brunswick, N.J.*
TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

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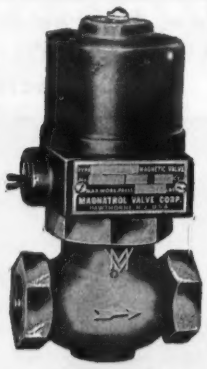
Eliminate
Costly Flow Failures



Magnatrol
SOLENOID VALVES

Quick Operating *Non Sticking* *Tight Seating*

These three design advantages are your assurance against costly flow failures. Attain dependable, accurate, automatic or remote control of liquids or gases with **Magnatrol Valves.** Installed quickly and easily in connection with . . . flow-meters, thermostats, float and time switches. **Every Magnatrol Valve is delivered to you—factory tested—guaranteed free from defects in material and workmanship.**

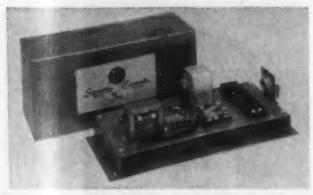
Available in normally closed or normally open models. Pressure ranges from zero up to 300 PSI. Voltages to 575.

Catalog containing complete specifications mailed upon request.

Magnatrol
Magnatrol Valve Corp.
Fifth Avenue
Hawthorne 8, New Jersey

▲ For more details circle NED-496 C9 on enclosed inquiry slip ▲

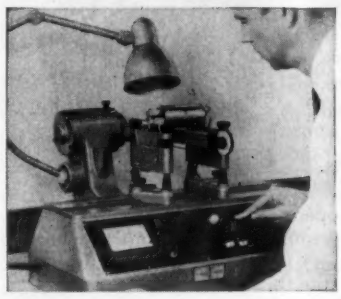
ELECTRONIC CONTROL
operates on 50-microampere signal



Transistorized SCI 100 electronic control operates on such low amperage (50 microamperes) to switch, detect, locate, or count, that there is no spark or arc at point of sensing or switching. It amplifies this current to operate a standard 5-amp control relay. Small, light metal parts are detected by contact with one or several points or probes at up to 1500 parts per minute. Up to 8 probes, in series, can be used with one control unit. A small, 1/4-in. diameter probe can be placed in a die to check placement of the blank. Location of part is possible to ±0.0001 in. since circuit is not completed with only 0.0001 in. gap from sensing point. Control operates on 117 v 60 cycles and can be any distance from sensing points. Made by **Security Controls, Inc.,** 503 Franklin St., Buffalo 2, N. Y.

▲ For more details circle NED-497 C9 on enclosed inquiry slip ▲

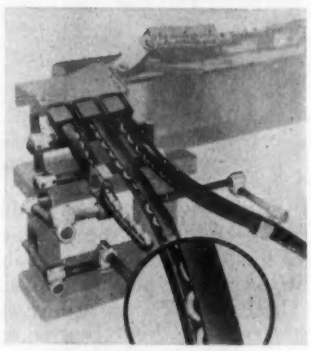
BALANCING MACHINES
for 1-oz to 27-lb components



Up to 80 or more parts can be balanced in an hour at speeds to 14,000 rpm on this Rava Type S Gyro balancer. Part is mounted on adjustable nylon supports and driven by a peripheral flat belt, by air, or under its own power and in its own bearings for optimum precision. Four speed ranges are available. Amount of unbalance is indicated on a meter and location is shown by a stroboscopic light. Machine will accommodate parts from 1 3/16 in. to 8 in. long with up to 6-in. diameters. Three models have weight capacities from 1 oz to 27 lb. Announced by **Tinius Olsen Testing Machine Co.,** 647 Easton Rd., Willow Grove, Pa.

▲ For more details circle NED-498 C9 on enclosed inquiry slip ▲

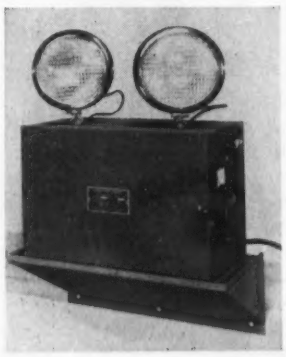
FLEXIBLE FEED TRACK
installed with standard fittings



Universally adaptable for most applications, Open-Flex feed track can be installed economically with standard components, fittings, and clamps. Track is fabricated in a variety of sizes in round, square, rectangular, or other shapes. A full length slot permits visible part inspection and lets dirt fall out. The internal carrier wire has hairline contact with parts, permitting easy flow. The flexible covering over the hardened wire is impervious to abrasion, acids, oil, and heat. Made by **Campbell Machines Co.,** 18634 Fitzpatrick, Detroit 28, Mich.

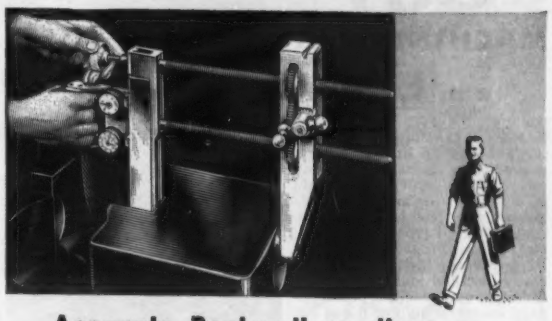
▲ For more details circle NED-499 C9 on enclosed inquiry slip ▲

EMERGENCY LIGHTING UNIT
automatic outfit has 6-v battery



Two adjustable sealed beam flood lamps mounted on top of the Model 59 - W automatic emergency lighting unit supply about 4 hr of continuous emergency lighting. Powered by a 6-v, 30 amp-hr capacity Willard storage battery with visible hydrometer balls, the unit contains a voltmeter, test switch, pilot light, and safety fuse mounted on one side of the case. Charging system is completely automatic. Model 59-NC is the same unit with a nickel cadmium battery which sells for under $100. Made by **Electric Cord Co.,** 21 Spruce St., New York 38, N. Y.

▲ For more details circle NED-500 C9 on enclosed inquiry slip ▲



Accurate Rockwell readings with PORTABLE hardness tester

Perfect for on-the-job production testing of both parts and stock materials, because it weighs just 3 lbs. 6 oz., gives accurate readings at any angle. Requires no set-up time, eliminates need for carrying large pieces to test bench or cutting test samples. Uses standard indentors and loads so no scale conversions are necessary. Rockwell scales A, B, C, D, E, F, G, H and K available as standard.

FOR A DEMONSTRATION . . WRITE DEPT. NED-359

Riehle TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILL.

▲ For more details circle NED-501 C9 on enclosed inquiry slip ▲

First and Only Disc-Type Brake to Fulfill J.I.C. Specifications

The efficient, direct-action operating advantages of the Reuland disc-type magnetic brake are now available for the first time in this self-contained unit. Being foot mounted it can easily be coupled to existing motor or equipment shafts in accordance with J.I.C. specifications. As a standard unit it also can be purchased "off the shelf" by O.E.M.'s or added to equipment at any time by users. Available with either single or double end shaft.

ALSO AVAILABLE WITHOUT SHAFT

Reuland disc-type brakes (either end bell or foot mounted) are also available for applications where the motor or equipment shaft can be extended directly into the brake. Combined with Reuland Fluid-Shaft motors and Motoreducers they provide many additional power and brake combinations.

Please Request Reuland Magnetic Brake folder No. MB-1050

Other* REULAND *firsts!

- Motor with internal fluid coupling
- All-aluminum motor frames
- Spline-coupled hydraulic pump motor
- Precision motors for machine tools
- "Through-Shaft" magnetic disc brakes
- Slip Ring motors in small #66 frames

Free general catalog of the COMPLETE Reuland line of STANDARD and SPECIAL Motors sent on request.

REULAND MOTORS

REULAND ELECTRIC COMPANY
Western Division: Alhambra, California
Eastern Division: Howell, Michigan
Distributors in all principal cities

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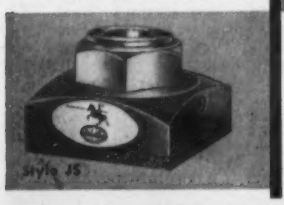
CUT
MACHINE MAINTENANCE COSTS
with EMPCO leveling jacks

EMPCO Leveling Jacks cut down on set-up time and keep maintenance costs to a minimum! They provide a solid, level support for machine tools, assembly fixtures, industrial furnaces, and all types of production equipment. Machines leveled with EMPCO Jacks are easily installed and relocated—maintain new-machine performance longer! Equipment can be re-leveled in a matter of seconds by a simple turn of the hex screw.

VI-SORB Mounting Pads are optional with EMPCO Jacks. They control vibration from within the machine itself, and reduce transmitted vibrations.



Available in two styles and 6 models, there's an EMPCO Jack for your every requirement. Write today for complete information and illustrated bulletin!

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

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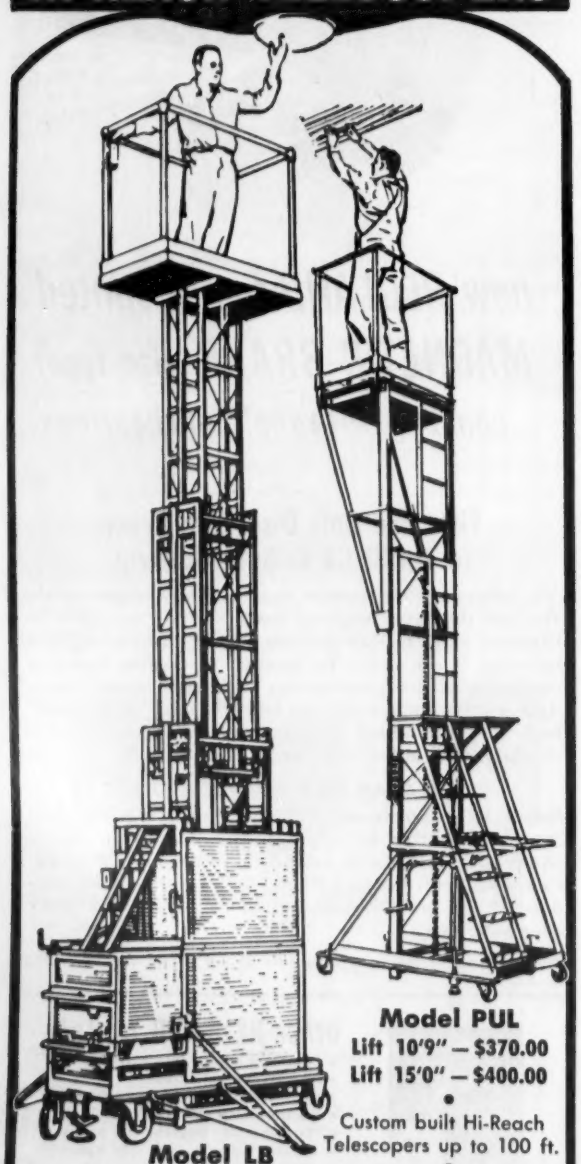
OVERHEAD SERVICING is Faster and Safer with HI-REACH TELESCOPERS



Model PUL
Lift 10'9" — $370.00
Lift 15'0" — $400.00
•
Custom built Hi-Reach Telescopers up to 100 ft.
•
Write for complete catalog

Model LB
Lifts 20 ft. to 35 ft.
$1510.00 up

Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING
4519 W. Lake St., Chicago 24, Illinois

▲ For more details circle NED-504 C9 on enclosed inquiry slip ▲

SHOCK-ABSORBING HAMMER
O-rings minimize impact shock

Fatigue of hammer work is minimized by use of the 2-lb Shure-Drive hammer which absorbs much of the impact shock. Its head is not rigidly connected to the handle, but is suspended by resilient O-ring shocks within the head housing. Hammer has a minimum of bounce and an oval-shaped, nonslip, neoprene-covered metal handle. Price is $9.95. Made by **Olin Mathieson Chemical Corp.**, Ramset Fastening System, 12117 Berea Rd., Cleveland 11, Ohio.

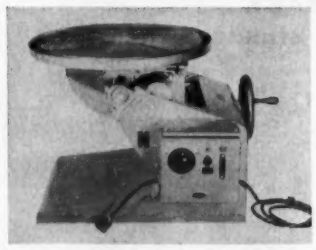
▲ For more details circle NED-505 C9 on enclosed inquiry slip ▲

HEAVY-DUTY AIR MOTORS
rated 11½ to 20 hp at 90 psi

High starting torque and sustained load-lugging ability are combined in line of Joy Pistonair five-cylinder, radial air motors for heavy-duty service. Simple throttle valve allows instant starts and stops, unlimited reversibility, and infinitely variable speeds. Rated from 11½ to 20 hp at 90 psi, motors operate safely in explosive, damp, hot, or corrosive atmospheres. Direct drive models turn at 400 to 800 rpm at rated horsepower with stall torques from 225 to 162 lb-ft. Models are available NEMA D-flanged, flanged with 15-in. bolt circle, and foot mounted. Geared drive foot-mounted models afford choice of five reduction ratios from 4.1:1 to 25.5:1. Output shafts run at 19 to 200 rpm with stall torques of 4837 to 648 lb-ft. Made by **Joy Mfg. Co.**, Oliver Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-506 C9 on enclosed inquiry slip ▲

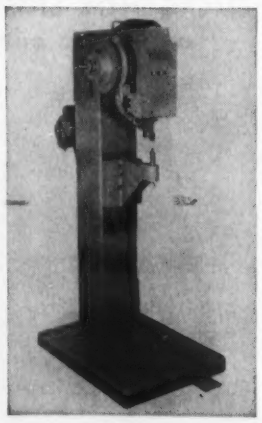
WELDING POSITIONER
turntable speed range is ¼ to 5 rpm



Turntable of this welding positioner can be tilted up to 135 degrees while loaded. Its capacity is 500 lb at a center of gravity 6 in. above the table surface and 3 in. off the center of rotation. Infinite speed range is ¼ to 5 rpm. Drive is a heavy duty 110-v dc shunt type motor and a two-speed reduction gear box. Direction of rotation is reversible. Table can also be made free-wheeling by placing the speed selector in neutral. Sheet steel control panel is mounted on the positioner frame, but it can be removed for remote mounting. The 26-in. diameter table top can be removed to permit use of special fixtures. Price is $948. Made by **Miami Specialties Co.**, Trade Road, Troy, Ohio.

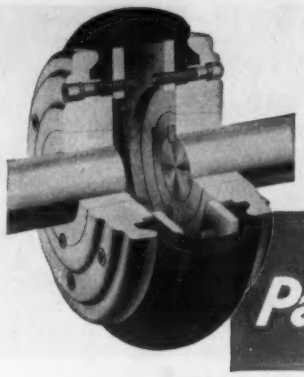
▲ For more details circle NED-507 C9 on enclosed inquiry slip ▲

RIVETING MACHINE
sets 5/16-in. semitubular rivets



Eccentric - actuated toggle linkage attached to the spindle of Model 110A riveting machine develops maximum force through the entire rivet setting range. The heavy duty machine will automatically feed and set semitubular rivets up to 5/16-in. diameter. Standard throat depth is 10 in. It can be economically converted to throat depths of 12, 14, or 16 in., to fixed center, double drive up to 3 in. center distance, right or left hand feed, and to hydraulic power. Many interchangeable brackets and posts may be selected for unusual clearance requirements. Easy-trip treadle and single-revolution, nonrepeat clutch contribute to safety of operation. Made by **Tubular Rivet & Stud Co.**, Quincy 70, Mass.

▲ For more details circle NED-508 C9 on enclosed inquiry slip ▲



New! Different!

DODGE **Para-flex**

FLEXIBLE CUSHION COUPLING

Exclusive tire-like flexing element automatically compensates for end-float, parallel or angular misalignment—singly or in any combination. Absorbs torsional vibration, cushions shock loads. Simplified mounting through use of standard Taper-Lock bushings. Flexible member easily replaced *without moving driver or driven machine.* Capacities to 825 hp at 1200 rpm. Write for Bulletin.

DODGE MANUFACTURING CORPORATION
2100 Union Street, Mishawaka, Indiana

DODGE of Mishawaka, Ind.

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Tight Sealing—the Fast Way

KEY® Graphite Paste, the tight sealing pipe joint compound, goes on easy, seals fast. It's ideal for oil, gas, and high pressure steam lines—safe for flammable liquids (officially listed by Underwriters' Laboratories). Expands under heat—lubricates and protects threads while it seals. Joints don't freeze—disconnecting always possible.

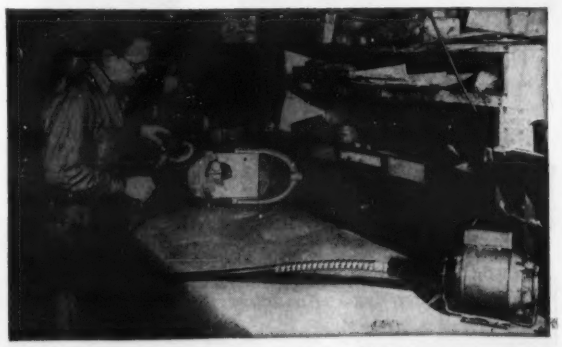
Key Graphite Paste is applied with a brush—no crumbling or waste. Extra long open-can life eliminates thinning and stirring.

Available in 1 lb., 2½ lb., 10 lb., 60 lb., and 500 lb. drums. Write for Circular 240-B and free sample.

W-K-M DIVISION OF ACF INDUSTRIES INCORPORATED
Dept. Z-3, P.O. Box 2117, Houston, Tex.
KP-3803

▲ For more details circle NED-510 C9 on enclosed inquiry slip ▲

New, Lightweight, Powerful FLEXIBLE TOOL SHAFT
Connects To Any Motor



Stow flexible tool shafts increase precision, eliminate operator fatigue on production grinding, polishing, sanding and other finishing operations in which the operator must hold the tool for long periods of time. Up to 3 HP can be transmitted through these new tool shafts, which consist of a core made of highest grade music wire rotating inside a rubber-covered casing. Each shaft furnished with ball bearing motor connection and high-speed ball bearing handpiece with removable wheel Arbor having ½-20" threads. An angle head can be used in place of the handpiece as shown in the photograph.

Four Sizes of these shafts are available . . . models 38, 40, 50 and 63, which come in 6-foot standard lengths. The largest shaft, model 63, will handle 3 HP at speeds up to 6900 RPM and has a maximum capacity for various accessories as follows: grinding wheel, 8" x 1"; buffing wheel, 8" x 1"; sanding disc, 9" diameter; sanding drum, 6" x 2½"; wire brush, 8" x 2"; steel drills, ½" diameter.

Write for Catalog 59

STOW MANUFACTURING CO.
26 Shear St. Binghamton, New York

▲ For more details circle NED-511 C9 on enclosed inquiry slip ▲

Fast Deliveries

custom engineered wire rope assemblies

Fittings of every type . . . standard or unique construction in all alloys . . . 002" to 1.0" diams. . . . 50' or 500,000' . . . checked and tested at every step of fabrication.

SPECIALISTS IN THE UNUSUAL

SEND FOR ASSEMBLY CATALOG, CA-1

BERGEN WIRE ROPE COMPANY
502 GREGG STREET, LODI, N. J.

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If You want to PRODUCE MORE

. . . develop Your

PARTS FEEDING

with VFC

BASIC EQUIPMENT

MOTIVATION . . .
. . . AUTOMATION

VFC HAS A CHARTED COURSE THAT WILL HELP YOU!

The real impelling force at VFC, aside from developing better parts feeding equipment, is how to help industry produce more.

When one or more parts are scheduled for a rendezvous, you need parts feeders and VFC's technical knowledge of how they can be adapted to your product or production line. No matter what direction your business takes, use VFC's parts feeding know-how as the motivation to automation.

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SIZES • SHAPES • MATERIALS

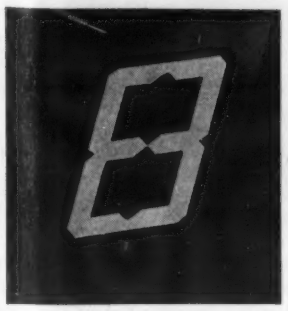
VFC . . FEEDING DATA BOOK

This tremendous storehouse of parts feeding information is available to you—make use of it and produce more—automatically. If you have a parts feeding job pending, the chances are the answer is in your VFC Sales Engineers Data Book, ask about it.

VIBRATORY FEEDER COMPANY
32nd and BRANDES STS., ERIE, PA. • PH 4-6320
Division of Automation Devices, Inc.

▲ For more details circle NED-513 C9 on enclosed inquiry slip ▲

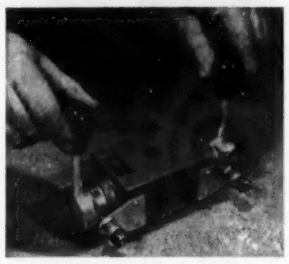
INDICATOR LAMPS
electroluminescent letters, numerals



Indicator lamps with letters or numerals illuminated by electroluminescence are available for use in various types of dials and indicators of readout equipment. No heat is produced by the virtually failproof, low-current lamps. Letters and numerals are formed by energizing specific segments of the lamps. Lamps are initially available in two sizes for 240 and 460 v, 60 or 400 cps. Larger 4 5/32 x 3 5/32-in. size is offered in both numerical and alphabetical types. Electrical contact is made through pins molded into the back plate. With special sockets, over-all depth is less than 1 in. Switching and forming of letters and numerals can be accomplished in various ways. Made by **Westinghouse Electric Corp.**, Lamp Div., MacArthur Avenue, Bloomfield, N. J.

▲ For more details circle NED-514 C9 on enclosed inquiry slip ▲

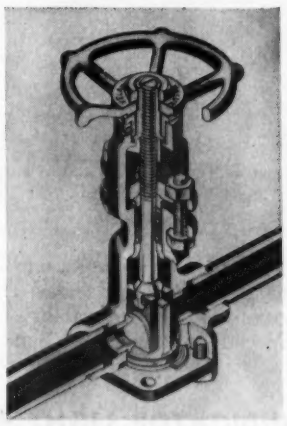
DOUBLE HYDRAULIC VALVE
three and four-way types offered



Cem-Lap seals which mate with optically flat rotor surfaces in this double hydraulic valve assure positive sealing at 2500 psi for oil and 2000 psi for water and gas. Roller thrust bearings contribute to smooth action and low handle pressures. Three and four-way combinations are made in sizes from 2 to 40 gpm with detented or spring return handles. Motor starting switches can be added as shown. The pump then runs only when the handle is turned. Made by **Clark Engineering & Mfg. Co.**, 1820 Layard Ave., Racine, Wis.

▲ For more details circle NED-515 C9 on enclosed inquiry slip ▲

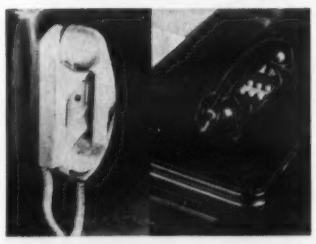
GATE VALVES
forged steel models up to 2 in.



All inner parts of this bonnetless forged steel gate valve can be replaced without taking the valve out of the line. The wedge, stem, back seat, and two screwed-in seats are serviced by removing the bottom guide plate. Seat tightness is tested by opening the valve and removing the drain plug in the bottom. Flushing is accomplished by removing the bottom cover. Valves are available with any trim and for 600 and 1500-psi service in ½ to 2-in. sizes. Bodies are carbon, alloy, or stainless steel. Made by **Velan Valve Corp.**, Beekmantown Road, Plattsburg, N. Y.

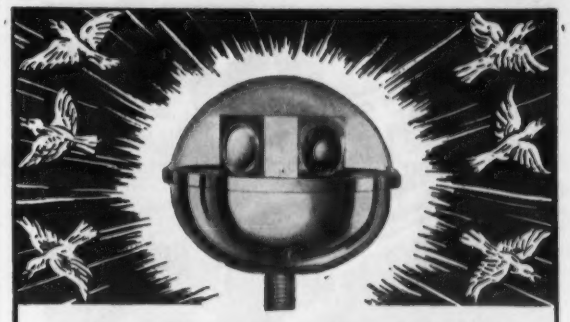
▲ For more details circle NED-516 C9 on enclosed inquiry slip ▲

INTERCOM PHONES
for 2 to 11-station systems



Stylish 85 Series Fanon Fones are suited for intercommunication installations of 2 to 11 stations. They are molded of high impact polystyrene and feature selective ringing and a common talking line that permits one private conversation at a time. System can also be used for conference calls. Master unit with 10 buzzer buttons for an 11-station system, a 7-station master, 4-station master, and a single button unit comprise the line for wall mounting or use on a desk. All units operate from a 117-v ac power supply and can be connected to one or more paging amplifiers in the system. Made by **Fanon Electric Co.**, 98 Berriman St., Brooklyn, N. Y.

▲ For more details circle NED-517 C9 on enclosed inquiry slip ▲



It's for the BIRDS!

STOP COSTLY WAREHOUSE DAMAGE . . .
Flash the MARK VIII Bird Eliminator

Now, bird damage so expensive to packaged goods, sheet steel, machinery, grain and other merchandise stocked inside warehouses can be eliminated! This light covers 360° like an airplane beacon with dual colored beams at the rate of 200 a minute. The roving rays continuously disturb the birds, interrupting their feeding and nesting to the extent that they do not remain. Lifetime vitreous enameled housing can't corrode. Operates on 115-120 V, is easily installed and has a 2000-hour bulb.

Get the Facts—Write TODAY!

TRIPPE MANUFACTURING CO.
133 N. Jefferson, Dept. F-3, Chicago 6, Ill.

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Left—
Union Special Style 20100 H Bag Closing Machine

Here's how to close MULTIWALL PAPER BAGS

FOR lower production costs . . . stronger, neater closures . . . ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! Specially built to stand up under heavy production schedules, these machines provide the high output rates needed to meet modern competitive conditions.

In the Union Special line, it's easy to find the right unit to meet your particular requirements. ASK FOR RECOMMENDATIONS.

SEND FOR THIS BULLETIN!

Get your copy of this 16 page illustrated bulletin containing helpful data and charts on the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE CO., 416 North Franklin Street, Chicago 10, Illinois

Union Special®

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high speed milling cutters FROM STOCK

from one of America's Oldest Cutting Tool Manufacturers

SPECIAL
CUTTER & TOOL COMPANY
401 Salliotte St. • Ecorse (Detroit) 29, Mich.

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interchangeable with all standard JIC cylinders

CHECK THESE 10 POINTS OF T-J SUPERIORITY

1. One Piece Piston
2. Hard Chrome Cylinder Bore and Piston Rods
3. High Tensile Steel Tie-Rods
4. Cushion Adjusting Screw, Externally Adjustable
5. New Super-Cushion for air, or Self-Aligning Master Seal for Oil (T-J Patents)
6. Solid Steel Heads and Mounting Plates Standard all Models
7. Port Design Allows Minimum Pressure Drop on Inlet or Outlet
8. Chevron Type, Self-Adjusting Rod Packing
9. Piloted Packing Gland—Absolute Alignment
10. Piston Rod, Extra Strong—Polished and Chrome Plated for Efficiency and Protection

Write today to Tomkins-Johnson, Jackson, Michigan, for Bulletin #SQ 10-58 and complete details.

T-J TOMKINS-JOHNSON

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UNIVERSAL
SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

* 180 "O" Rings in Each Kit — Sizes 1 to 25.
* Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
* Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
* Buy Replacement Back-up Washers in these "O" Ring Sizes.

SELECT-O-RING KITS IN VITON . . $124.50
AN 6227 SERIES $59.50

Several Desirable Distributorships Available

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3631 EUCLID AVENUE, CLEVELAND 15, OHIO
DIXIE BEARINGS, INC.
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BEARINGS, Inc., 3631 Euclid Avenue, Cleveland 15, Ohio
Dear Sir:
Please send us _____ Universal "O" Ring Kits.
Material _____ Price _____
Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

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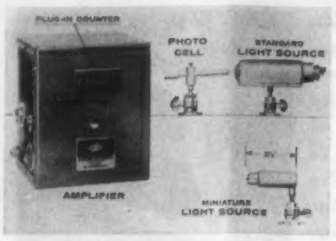
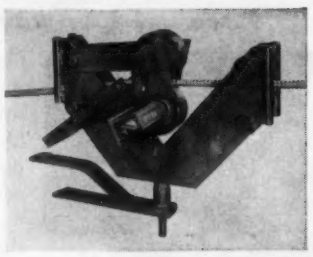
PHOTOELECTRONIC COUNTER
makes over 1500 counts per minute



Six - digit plug - in counter which has a life of over 100 million counts is built into the Robot-Eye RE-8 photoelectronic counter. It counts by interrupted or reflected light beam at speeds over 1500 counts per minute. The counter resets to zero by button. Objects that are 1/4 in. long and moving at 2 fps can be counted at the above speed. Photo cell and light source are swivel mounted for easy alignment. Amplifier-counter may be remotely located up to 10 ft from the other units. Standard and miniature light sources are 5 and 2 1/4 in. long, respectively. Standard power supply is 115 v, 60 cycles ac. Other voltages and waterproof housings are available. Price is $110. Made by **Standard Instrument Corp.**, 657 Broadway, New York 12, N. Y.

▲ For more details circle NED-525 C9 on enclosed inquiry slip ▲

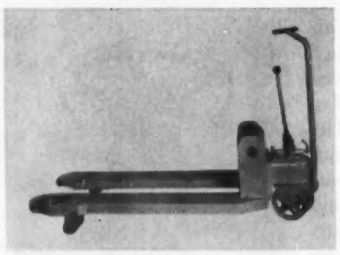
LINEAL FOOTAGE METER
measures wide range of cable sizes



Measuring roll and the back-up roll of this lineal footage meter are mounted on spring-loaded, pivoted arms to keep the measuring roll in constant contact with the product being measured. Electric wire and cable, including lead-coated and flexible conduit, in diameters from 1/8 to 1 3/4 in. can be measured, as can wire rope, hose, and flexible plastic pipe. Meter has heavy top and bottom guide rollers at entrance and exit. All pivots and bearings are permanently lubricated. A large, direct-reading counter indicates the measured footage. Made by **Columbia Products, Inc.**, Reel-O-Matic Div., Wrightsville, Pa.

▲ For more details circle NED-526 C9 on enclosed inquiry slip ▲

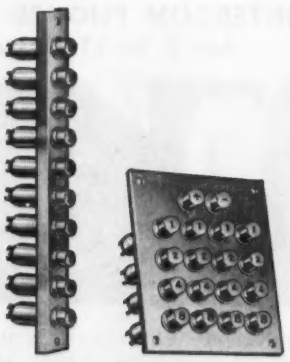
PALLET LIFT TRUCK
hand model has 2500-lb capacity



Long life polyurethane rear wheels are now standard on this Model HP-25 pallet lift truck for handling loads up to 2500 lb. Wheels are abrasion resistant, have high load capacity, resist set, and are impervious to most chemicals. Counterbalanced handle has a steering arc of 200 to 240 degrees for maneuverability. Made by **Colson Corp.**, Special Products Div., Somerville, Mass.

▲ For more details circle NED-527 C9 on enclosed inquiry slip ▲

INDICATOR LIGHT PANELS
have replaceable lamp cartridges



Plug-in lamp cartridges used in Dialco data strip and data matrix indicator light panels incorporate T-1 3/4 incandescent lamps with ratings from 1.35 to 28 v, or NE-2E neon lamps for 105 to 125-v circuits. Each lampholder has two terminals and is completely insulated. Cartridges have short or long cylindrical lenses which can be hot-stamped with one or two numerals, symbols, or letters. The 10 - light data strip DSV - 7538-10 (left) is ready for mounting as a unit in a minimum of space in computers, program boards, and read-out panels. It can be made with any number of lampholders on 1/2-in. centers for vertical or horizontal reading. Using the same ultraminiature lampholders is the DM-7538-18 data matrix (right), for a typical binary computing application. Made by **Dialight Corp.**, 60 Stewart Ave., Brooklyn 37, N. Y.

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Precision Control up to 5000°F

Model CT-312

PERECO
Carbon-Resistor Type TUBE FURNACE

Developed to meet the demands of both industry and military. Suited for investigations in the ultra-high (3500°-5000° F.) temperature ranges in the field of either metallurgy or ceramics. Wide range of "turn-down" insures very accurate results. May also be duplicated repeatedly. Capable of holding to plus or minus 20° F. at 5000° F. Choice of extremely rapid or any slower cycle heat-up; close control of both temperature and power input; full-range, FAIL-SAFE, safety devices; and easy, low-cost element replacement.

Standard or Special Furnaces or Kilns from 450° F. to 5000° F.

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PERENY EQUIPMENT CO.

Dept. G, 893 Chambers Rd. Columbus 12, Ohio
Export Office: Ad. Auriema, Inc., 85 Broad St., N. Y. 4, N. Y.

PERENY EQUIPMENT COLUMBUS OHIO

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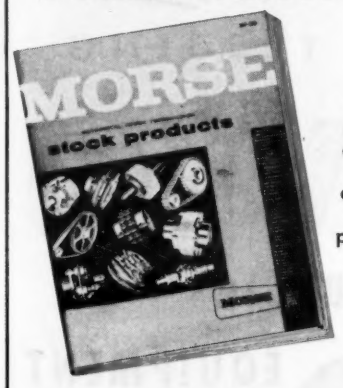
FREE! NEW MORSE STOCK PRODUCTS CATALOG



Gives selection and pricing data on all mechanical power transmission products

Big new all-in-one catalog gives properties and features, selection tables, and costs for Morse roller, double pitch, and silent chain . . . flexible couplings . . . torque limiters . . . cam clutches . . . and other Morse power transmission equipment.
Write today for Catalog SP-59 to MORSE CHAIN COMPANY, DEPT. 19-39, ITHACA, N.Y. A Borg-Warner Industry. Export Sales: Borg-Warner International, Chicago 3, Illinois.

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Wait a minute! adding to your warehouse?

Has it ever occurred to you that you may have sufficient space—if you can put it to proper use?

Let PALTIER trained Materials Handling Engineer take a look. With properly selected equipment and flow of materials your present storage area may be adequate! Storage equipment COSTS LESS than NEW FLOOR SPACE!

PALTIER STORAGE SYSTEMS are designed jointly by industrial architects, structural and materials handling engineers.

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1705 Kentucky Street • Michigan City, Indiana
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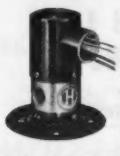
HUMPHREY "Quick-Dump" VALVES

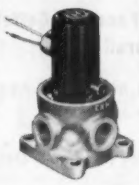
OFFER MORE ON 2, 3, 4-WAY APPLICATIONS



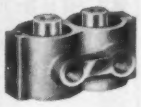
ELECTRICALLY OPERATED
2-way and 3-way valves. Both one-coil "fail safe" and two-coil "momentary impulse" types.

MANUALLY OPERATED
2-way and 3-way finger-tip operation. A touch opens or closes. Many models — lever, cam, foot pedal, palm button, etc.

PILOT-OPERATED ELECTRIC VALVES
2-way and 3-way models, actuated by independent source of pressure. Two types: "fail safe" and "momentary impulse."



PILOT OPERATED VALVES
4-way 5-port shown (2, 3-way avail.) actuated by medium (gas or liquid) separate from medium being valved.



FULL ⅛", ¼", ½" CAPACITY THROUGHOUT—42 MODELS

Basically simpler, faster-operating, longer-lived control valves. For temperatures from —65 to 225° F. Many exclusive, better features for superior performance. Adopted by nationally known O.E.M. firms.

Engineering assistance available on valving problems.

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"The Heart of Automation"
DIVISION OF GENERAL GAS LIGHT COMPANY
202 N. PARK ST., KALAMAZOO, MICHIGAN

Pneumatic-Hydraulic Valves and Devices

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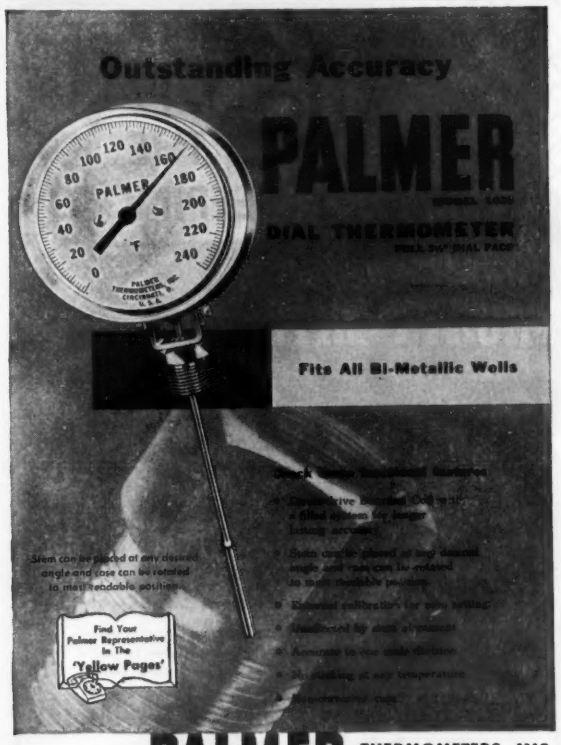

Write for Free Bulletin 1035 for complete description and prices.

PALMER THERMOMETERS, INC.
Mfrs. of Industrial Laboratory, Recording and Dial Thermometers
2515 Norwood Ave., Cincinnati 12, O.

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Now in use by leading manufacturers and service organizations. Provides standardized identification, absolute legibility, and permanency at remarkably low cost. Kit includes 474 signs assorted over 59 operational subjects. Easily applied in seconds.

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Heat, abrasion, weather and many of the new industrial surfaces are deadly enemies of most product markings. But not to new, improved Meyercord Decal Markings—types C, G, J and H (heat resistant). Ask for new brochure.

the MEYERCORD co.
Dept. F-316 5323 West Lake St., Chicago 44, Illinois

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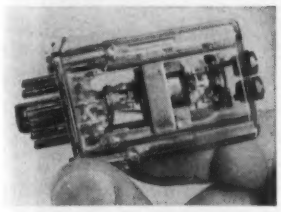
METER-RELAY contacts are now adjustable



Adjustable contacts now featured by the very-high-sensitivity nonindicating meter-relay allow easy changing of either control points or calibration. More resistant to shock and vibration than earlier models, the VHS Model 137 is 1⅜ in. square and only 2½ in. long, including the 9-pin plug-in base. It will trigger control action on signal changes as small as 0.2 microampere, or 0.1 mv dc. A separate locking coil increases the contact pressure of the signal pointer to the limit pointer. For manual or automatic reset, the locking circuit is opened and a spring snaps the contacts apart. Made by **Assembly Products, Inc.**, Chesterland, Ohio.

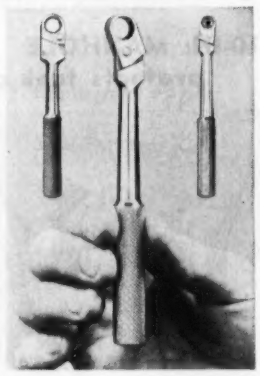
▲ For more details circle **NED-535 C9** on enclosed inquiry slip ▲

PHYSICAL QUANTITY TESTER for pressure, load, force, strain

Self-contained, portable Model 1650 Poly-Gage directly measures such physical quantities as pressure, load, force, displacement, and strain by plugging in the appropriate transducer or strain gage. It provides facilities for direct or remote indication of measurements and has an electrical output for recording or control. Range factors of 100, 25, 10, 2.5, 1, and 0.25 can be selected. Instrument operates on 117-v ac, weighs 22 lb, and measures 15 x 9 x 6 in. Additional controls are selector switch, zero set control, gage factor control, and quad test. Made by **Telechrome Mfg. Corp.**, 28 Ranick Dr., Amityville, L. I., N. Y.

▲ For more details circle **NED-536 C9** on enclosed inquiry slip ▲

SMALL RATCHET WRENCH for close-tolerance wrenching



Close-clearance assembly and repair operations are performed easily with this small ratchet wrench. Outside diameter of the wrench head does not exceed the diameter of the head flange on a 12-point screw. Thus, there is no overlap to interfere when bolting or nutting in tight places. A tool of the same type is also available for hex-head bolts and nuts. Made by **Milbar Corp.**, 1900 Euclid Ave., Cleveland 15, Ohio.

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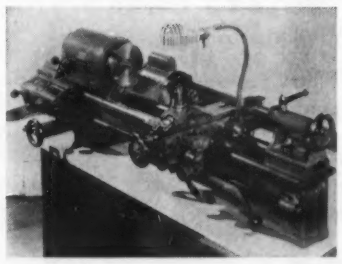
10-IN. METAL LATHE low cost machine has variable speed drive and ¾-in. collet capacity



This Delta 10-in. metal cutting lathe is designed to perform moderate to heavy duty work in production, maintenance, tool room, and other industrial operations. It is equipped with a drive which provides infinitely variable spindle speeds from 50 to 2500 rpm. Quiet direct drive can be used for many thread pitches and heavy cutting.

The large ¾-in. collet capacity is obtained by using a 4-C style collet with a 15/16-in. hole through the spindle. Features include preloaded, sealed, inboard spindle ball bearing; two tandem matched V-belts between the spindle bearings; and quick-change gear box for a choice of 54 feeds or thread pitches. Power is afforded by ¾-hp motor. Price without bench, motor, and switch is under $700. Made by **Rockwell Mfg. Co.**, Delta Power Tool Div., 451 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-538 C9** on enclosed inquiry slip ▲

USG® BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.

B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

Another RCA Automation Product for Better Materials Handling

Low cost automatic RCA ROTARY HOPPER

Compare the cost and features of these new RCA Automatic Rotary Hoppers, and you'll see why they are gaining such rapid acceptance! They provide every needed operating feature, yet are offered at remarkably low prices . . . beginning at $265, f.o.b., Detroit.

Features:

- **High-speed—up to 20,000 parts per hour.**
- **Handles cylindrical, rectangular, headed disc shaped and other parts.**
- **Parts orientation performed by feed track, not the bowl.**
- **Feed tracks easily changed by loosening one screw.**
- **18", 24", 30" bowls available.**
- **Rugged construction—cast-iron frame; driving mechanism supported by heavy duty self-aligning bearings.**
- **Standard gear-head motor.**
- **Safety-slip drive protects parts and equipment.**
- **Price includes cleats on selector ring and mounting block for tracks.**
- **Demand-control mechanism and wide variety of discharge tracks furnished at modest extra cost.**

Write today for complete information on low-cost RCA Rotary Hoppers. To permit analysis of your needs, send two samples of each part to be handled, and indicate required production rates. Details of other RCA Automation Equipment available on request.

RCA Tmk(s)®

RADIO CORPORATION of AMERICA
INDUSTRIAL AND AUTOMATION DIVISION
12605 Arnold Ave., Detroit 39, Mich.

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STERLING GIVES YOU
Speed Reduction as you want it!

Sterling Slo-Speed Gear Motors

(J.I.C.)
Sterling Separate Motor Reducers

Sterling Multi-Mount Speed Reducers

Sterling offers all three types of geared speed reducers—Gear Motors, Separate Motor Reducers and Speed Reducers. Each type of Sterling Reducer incorporates a rugged helical gear system, sealed in dip-splash lubrication and rugged housings for permanent alignment. They also can be mounted in virtually any position without modification and a variety of mounting types simplifies integration with machinery or equipment.

WRITE TODAY
For Bulletin No. 172

DISCOVER THE BIG ADVANTAGES STERLING ELECTRIC POWER DRIVES CAN BRING TO YOUR PLANT

STERLING ELECTRIC MOTORS
Los Angeles 22 • Chicago 35 • Cincinnati 37 • New York 51

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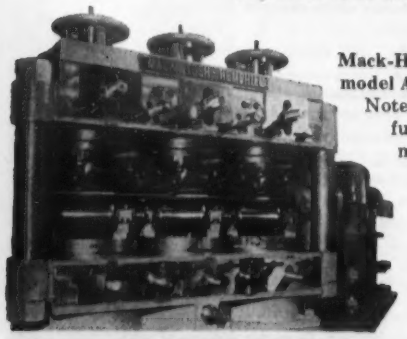
Is your tubing ALMOST straight?

Why settle for almost straight, almost round pipe and tube when a Mack-Hemp Straightener gives you premium straightness and roundness every time in a single pass.

Mack-Hemp's open three-post rotary tube straightener is the most effective machine ever developed for finishing pipe and tube. It's rugged, yet easy to adjust . . . to maintain. It's easy to set the rolls, and easy to reset them for different tube diameters.

More important: It's versatile . . . fits into any tube or pipe mill production line. It's fast . . . all six rolls are driven for speeds up to 1,000 fpm and more. It's guideless . . . won't mar tubing surfaces. And there are thirteen models . . . for tube diameters ranging all the way from 1/16 inch to 16 inches.



Mack-Hemp three-post model AX straightener. Note how this clean functional design makes it easy to see and get at the rolls for adjustment and locking.

Learn more about the Mack-Hemp Straightener. Write for a free copy of our 24-page illustrated technical bulletin, "How to Straighten Pipe and Tube."

MACKINTOSH-HEMPHILL
Division of
E. W. BLISS COMPANY
901 Bingham Street • Pittsburgh 3, Pa.

▲ For more details circle NED-541 C9 on enclosed inquiry slip ▲

HYDRAULIC POWER UNIT
capacities from 1/2 to 4 gpm

Fluid power source for tractors, dock leveling devices, tail gate lifts, snow plows, and lift trucks is offered in the Series GC-2405 hydraulic power unit which mounts in any position. The rotary gear pump has capacities of 1/2 to 4 gpm at 1800 rpm. Pressures range up to 2000 psi. The 4 3/4-in. by 6, 9, or 12-in. reservoirs have 1 1/4, 2 1/8, and 3-qt capacities. Direct, belt, or special drives are available. Various 1/4 to 2-hp alternating current and 6, 12, and 24-v direct current motors can be incorporated. Several built-in control variations are available. Unit can be engineered to the application. Made by **John S. Barnes Corp.**, Constant-Flo Div., 301 S. Water St., Rockford, Ill.

▲ For more details circle NED-542 C9 on enclosed inquiry slip ▲

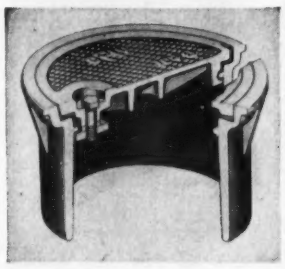
DATA PROCESSOR
produces multichannel punched tape and is actuated by adding machine

Accounting, forecasting, planning, sales analysis, and inventory are some of the operations that can be expedited with this Victor Data Punch. It consists of a full-keyboard adding machine which actuates a tape punch. Latter operates at rate of 20 digits per second on signals fed to it by the adding machine.

The data punch produces two records simultaneously—a detail strip for immediate accounting and a punched tape which can be directed to digital computers and processors. Information on the punched tape can be converted to punched cards or magnetic tape for further processing. Coding of data on tape is possible, and machine will produce 5 to 8-channel punched tape representing some or all of the numbers entered, processed, or produced in the adding machine. Keyboard input can be manual or electric. Made by **Victor Adding Machine Co.**, 3900 N. Rockwell St., Chicago 18, Ill.

▲ For more details circle NED-543 C9 on enclosed inquiry slip ▲

10-IN. MANHOLE
protects tank or access openings



Though originally designed for service station use, this 10-in. manhole is widely applicable in industry wherever underground storage tanks or access openings are employed. Equipped with heavy cast iron body, it is available with locking or nonlocking covers, with or without gaskets. It fits flush with floor or driveway. Made by **OPW Corp.**, Jordan Industrial Sales Div., 6013 Wiehe Rd., Cincinnati 13, Ohio.

▲ For more details circle NED-544 C9 on enclosed inquiry slip ▲

NET WEIGHING MACHINE
has electric dumping mechanism

Any powder, crystalline, or granular material is net weighed and dispensed into containers by the Filamatic weighing machine. It is equipped with an automatic, electrically actuated dumping mechanism. Machine also counts tablets or small metal parts by the net weigh method. Material is fed into a balance pan by a vibrating chute until the desired weight is reached. A foot switch empties it into the container. An automatic model feeds and discharges in a continuous cycle, pacing the operator. Machine has aluminum or stainless steel contact parts and dispenses from 0 to 40 oz per fill. Filling rate is adjustable from 0 to 15 weighings per minute. Made by **National Instrument Co.**, 2701 Rockwood Ave., Baltimore 15, Md.

▲ For more details circle NED-545 C9 on enclosed inquiry slip ▲

Standard *For* Industry

CENTURY Liquid Level SIGHT GAGES

- Easiest Possible Installation on any wall thickness
- Large Face for Better Visibility—7" Overall
- Can be used with non-inflammable oil
- Leak-Proof — No Dripping
- For Better Service at Lower Costs, Start Using Century Gages Today
- Available Immediately — from STOCK

Send for new catalog containing dimensional information on hydraulic reservoirs and complete line of power unit accessories.

CENTURY HYDRAULICS
Division of CENTURY-DETROIT
7701 LYNDON AVE. • DETROIT 38, MICH.
Telephone: Diamond 1-3797

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DON'T LOSE COSTLY PARTS IN THE SWEEPINGS

RECLAIM WITH A
MIGHTY-MITE
VIBRATING SCREEN

SINGLE AND DOUBLE DECK MODELS UP TO 15 T.P.H.

Now do as many companies do to prevent profits going out in the sweepings . . . Easy to use, easy to move Mighty-Mite will pay for itself. Investigate today!

SCREEN EQUIPMENT CO., INC.
Buffalo 25, New York

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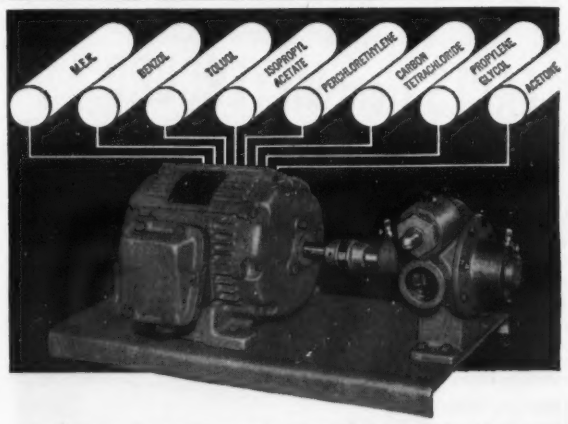


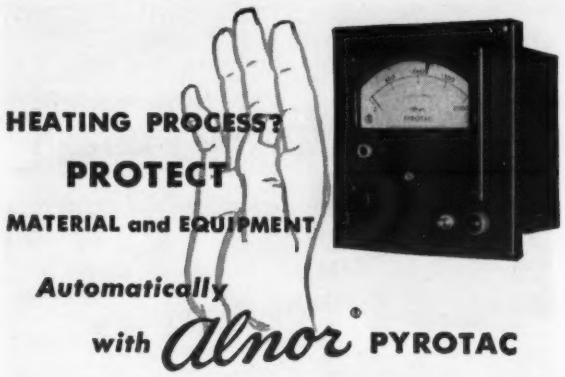
PUMPS FOR SYNTHETIC SOLVENTS

- TRUCK PUMPS
- BULK PUMPS
- HAND PUMPS

If you're transferring or dispensing solvents, you'll move them more safely and efficiently with Blackmer bulk, truck, or hand pumps designed specifically to handle these types of liquids. Write for Bulletins 110, 200, and 310.

"liquid materials handling"® equipment
BLACKMER
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICH.
See Yellow pages for your local sales representative

▲ For more details circle NED-548 C9 on enclosed inquiry slip ▲



HEATING PROCESS?

PROTECT

MATERIAL and EQUIPMENT

Automatically

with Alnor® PYROTAC

Not expensive...but a simple, automatic way to safeguard your investment in heating equipment and materials in process.

The precision-built Pyrotac constantly indicates temperature of the heated equipment and sounds an alarm and/or shuts down the equipment at a safe, preset temperature. May also be used as a controller on processes where shutdown is required upon reaching final process temperature—such as ceramic kilns, molds, etc. Automatic thermocouple break protection assures complete safety if couple or lead wire should break.

Write for Pyrotac bulletin. Attach this ad to your letterhead, send to: Alnor, Room 529, 420 No. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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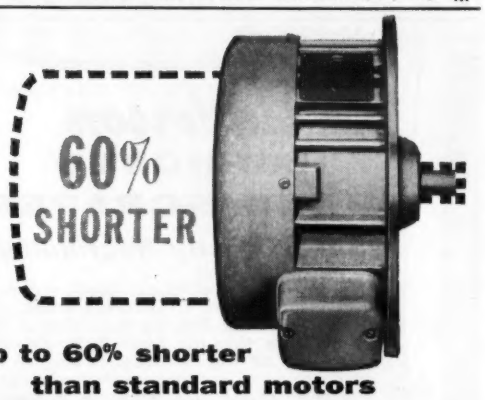


up to 60% shorter than standard motors

NEW Louis Allis Pancake Motor

The new Louis Allis Pancake Motor is up to 60% shorter than other motors of its type. Actually, it's a conventionally-built—and consequently trouble-free—radial air-gap motor that's been compressed to less than half the length of many flange-mounted motors. The Pancake Motor couples space-saving design with top quality . . . maintains NEMA service factor.

The Pancake is ideal for machine tools, roof ventilators — any application where space is critical. Features include a rigid cast iron frame, pre-lubricated oversize bearings, and an insulating varnish that provides the highest degree of moisture, acid, and alkali resistance. Sizes from 1 to 15 hp, open or enclosed. Write The Louis Allis Company, 436 East Stewart Street, Milwaukee 1, Wisconsin.

SM-103

LOUIS ALLIS

▲ For more details circle NED-550 C9 on enclosed inquiry slip ▲

CAMERON

SLITTER KNIVES

the RIGHT EDGE for quality work

Slitter knives have different cutting edges for different materials. The right edge gives you cleaner slitting, faster, at lower cost. Don't guess! Let Cameron specialists recommend the best cutting edge for your material. Write today! AA-362

Cameron Machine Company, Franklin Road, Dover, N. J.

Canada: Cameron Machine Co. of Canada, Ltd., 15 Hatt St., Dundas, Ontario

France: Batignolles-Chatillon, 5 Rue De Monttessuy, Paris (7e) France

▲ For more details circle NED-551 C9 on enclosed inquiry slip ▲

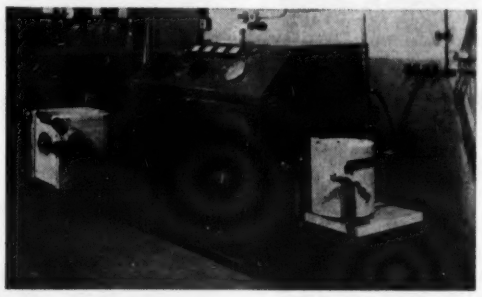
CUT-OFF SAW
cuts parallel within 0.003 in.

Most ferrous and nonferrous metals, plastics, and wood can be cut with only two different blades and at a fixed speed by the Navkut cut-off saw. It is capable of length accuracy and cut parallelism within 0.003 in. with an unskilled operator. Final alignment of cut to within 0.001 in. is possible in all planes. Made by **Navan Products, Inc.**, 900 N. Sepulveda, Los Angeles 45, Calif.

▲ For more details circle NED-552 C9 on enclosed inquiry slip ▲

INDUCTION MELTING UNIT
connected to power, water, furnace

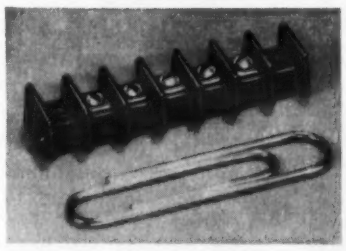
Power source, controls, and all components required for operating high frequency induction furnaces and coils are contained in the Integral 30 console panel.



It has a 30-kw motor-generator set, compact transformers, capacitors, meters, and controls, and is shipped assembled. Use requires only connecting it to a 220 or 440 v power supply, cold water line, and drain. Various furnaces or coils are quickly connected by leads which supply both power and cooling water. Over 20 capacitor and 8 transformer steps are controlled from the front. Unit can be caster mounted for portability. Made by **Inductotherm Corp.**, 412 Illinois Ave., Delanco, N. J.

▲ For more details circle NED-553 C9 on enclosed inquiry slip ▲

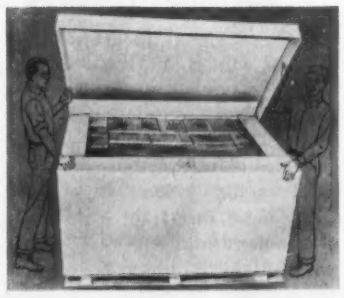
TERMINAL BLOCKS
subminiature 1 to 21-terminal type



Styles and lengths to fit a wide range of electrical and electronic uses are available in subminiature Series 409 terminal blocks, shown alongside a standard paper clip. Only 5/16 in. wide, they are molded of high tensile strength Bakelite and other approved materials. Models with 1 to 21 terminals are offered. Turret lugs are available. Made by **Kulka Electric Corp.**, 633 S. Fulton Ave., Mt. Vernon, N. Y.

▲ For more details circle NED-554 C9 on enclosed inquiry slip ▲

BULK CARGO CARTON
made of strong corrugated board



After the lower, or half-slotted part of the King - Pak bulk cargo carton is filled, a sleeve is slipped over the lower portion to create an additional and equal amount of space which is then loaded to the top. This carton design minimizes the bending required to pack and unpack the containers. Other parts of the carton are a corner-cut tray which is the final cover and a wooden skid on which the triple-wall corrugated board carton is mounted. After the container is packed and covered, its corners are taped, and the entire unit is strapped to the skid. Light in weight, it can be re-used by collapsing and returning it to the shipper. Sizes for various requirements are offered by **Tri-Wall Containers, Inc.**, 799 Washington St., New York 14, N. Y.

▲ For more details circle NED-555 C9 on enclosed inquiry slip ▲

Farm machinery, automotive, electrical, home appliance and industrial equipment manufacturers save money with rolled, split bushings. In bimetal (bronze, babbitt or sintered copper-lead on steel) they can give bearing performance at bushing costs. Plain bushings in bronze, steel or aluminum. Oil holes, grooves, cut-outs; straight, lock or special seams available. Wide size range. Write for complete information.

FEDERAL-MOGUL DIV.

Federal-Mogul-Bower Bearings, Inc.

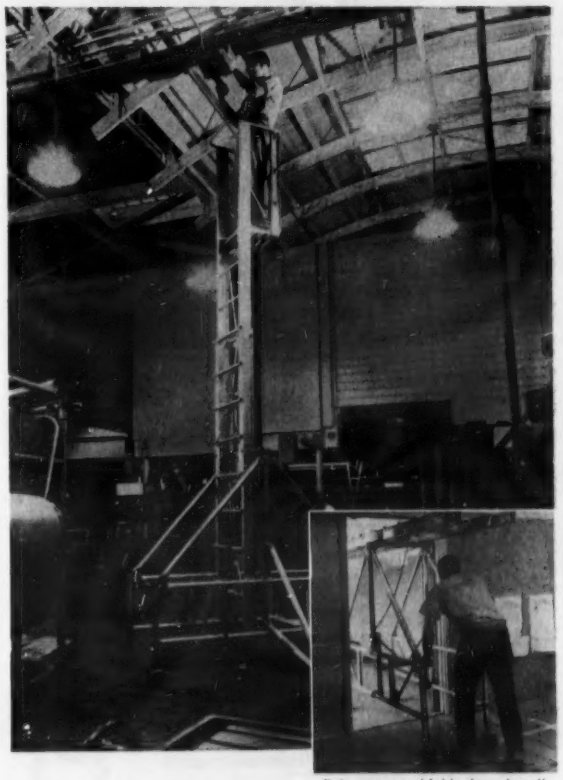
11079 SHOEMAKER, DETROIT 13, MICHIGAN

▲ For more details circle NED-556 C9 on enclosed inquiry slip ▲

UP-RIGHT ANNOUNCES A NEW WORK PLATFORM

TALLESCOPE

...telescoping aluminum structure for overhead spot maintenance



Telescopes and folds down to roll through doorways, under trusses, pipes and conveyors.

Lightweight, rapidly assembled by one man. Extends instantly for reaching heights up to 30 ft. Adjustable legs for uneven floors or stairways. Only 29" wide for rolling through congested areas.

Separates easily into 3 components for convenient storage or transportation.

FOR

TALLESCOPE

CIRCULAR

WRITE TO

UP-RIGHT SCAFFOLDS

DEPT. 175 • 1013 PARDEE ST., BERKELEY, CALIF.

Manufactured by UP-RIGHT SCAFFOLDS

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Your copy is

FREE

. . . and its full of SHORT RUN STAMPING TIPS!

IT'S A FACT—You can get better short run stamping *at less cost* by putting into practice the many tips and economies outlined. You'll want this fact-filled stamping guide at your fingertips when planning new products, changing existing products or checking methods and procedures.

WRITE FOR BULLETIN 301 . . . and if you want immediate proof of Federal's ability to produce top quality stampings—send along a part print or sketch for an analyzed quotation.

FREDDY FEDERAL SAYS:
For better stampings . . . better contact Federal.

QUALITY STAMPINGS
FEDERAL
IN SMALL QUANTITIES

3 PLANT LOCATIONS

FEDERAL TOOL & MANUFACTURING CO.
3618 Alabama Ave., Minneapolis 16, Minn.
FEDERAL SHORT RUN STAMPING, INC.
918 Lyell Avenue, Rochester 6, N. Y.
FEDERAL STAMPING COMPANY
7318 Atoll Ave., No. Hollywood, Calif.

▲ For more details circle **NED-559 C9** on enclosed inquiry slip ▲

Available NOW for the FIRST TIME

DEPENDABLE PS MATERIALS HANDLING EQUIPMENT

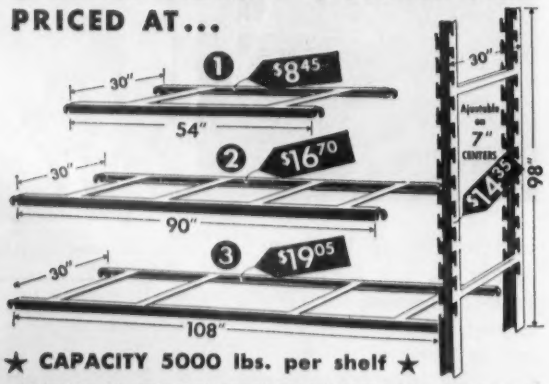
STANDARD SIZE PALMER-SHILE Adjustable STORAGE RACKS

SERIES **60**

Pat. App. For

JUST TWO STEPS—SET UP PANELS SNAP SHELVES IN POSITION

3 SHELF SIZES • 1 PANEL SIZE PRICED AT...



★ CAPACITY 5000 lbs. per shelf ★

IMMEDIATE DELIVERY FROM STOCK OF LOW COST P-S Standard Series 60 Racks are ideal where fast action is necessary to solve your storage problem. Built of sturdy steel channel they are capable of handling almost any kind of materials and merchandise on pallets, skids, boxes or barrels. Come in four pieces—A. Vertical PANEL 8½' high, 30" deep and 2½" wide with shelves adjustable to 7" centers. B. THREE DIFFERENT SHELF LENGTHS 4½', 7½' and 9' each 30" deep. No small parts, set entirely by hand, top shelf can be flush. Standard racks can be joined in multiple sections of the same shelving lengths, or any combination.

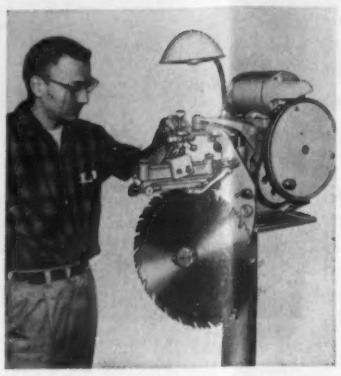
Can be built to customer specifications

DESIGNED AND MANUFACTURED BY
Palmer-Shile Co.
16015 FULLERTON AVE., DETROIT 27, MICH.

BOSTON, Mass., ANdrew 8-3634 • BURLINGAME, Calif., Diamond 2-0823 CHICAGO, Ill., AUstin 7-8599 • DENVER, Colo., ATlas 7-5255 • EUCLID, Ohio, IVanhoe 6-3150 • FLINT, Michigan, CEdar 6-6881 • FORT WAYNE, Indiana, KEnmore 3408 • INDIANAPOLIS, Indiana, MElrose 5-2587 • LOS ANGELES, Calif., RAymond 3-3733 • MILWAUKEE, Wis., BRoadway 1-9860 ST. LOUIS, Mo., PRospect 1-1474 • WHITE PLAINS, N. Y., White Plains 6-1354. Export Division—75 West St., NEW YORK 6, N. Y.

▲ For more details circle **NED-560 C9** on enclosed inquiry slip ▲

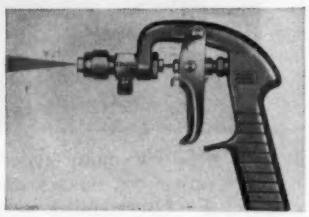
AUTOMATIC SAW FILER
sharpens rip and crosscut saws



Crosscut circular saws, band saws, hand saws, as well as combination rip and crosscut circular saws can be sharpened by the Model 200 Foley automatic saw filer. Feed mechanism feeds an entire segment (between deep gullets) of a combination circular saw. Thus, the first tooth in each segment is sharpened around the saw, then the second tooth in each segment, and so on. Feed can also be adjusted to feed from tooth to tooth for saws as fine as 16 points per inch. Saw is jointed as it is filed to keep teeth uniform in size, shape, and spacing. Filing arm can be set at right angles to saw, or swung 30 degrees right or left of center. File may be rotated to put any desired hook on saw teeth. Made by **Foley Mfg. Co.**, Dept. 200, 3300 N.E. Fifth St., Minneapolis 18, Minn.

▲ For more details circle **NED-561 C9** on enclosed inquiry slip ▲

AIRLESS SPRAY GUN
uses interchangeable orifice tips



Hydraulic spray coating and painting at pressures up to 2000 psi are functions of the Model 22 HPSSTC GunJet heavy duty spray gun. Operating without air, it uses interchangeable orifice tips in a choice of capacities and spray angles. Tip materials include stainless steel, hardened stainless steel, chrome plated brass, and tungsten carbide inserts in a chrome plated body. Valve seat and mating needle insert are made of tungsten carbide. The stainless steel body and Teflon packings resist chemical action. Gun weighs 12 oz, has a constant pressure trigger spring, and operates at pressures from 400 to 2000 psi. Made by **Spraying Systems Co.**, 3211 Randolph St., Bellwood, Ill.

▲ For more details circle **NED-562 C9** on enclosed inquiry slip ▲

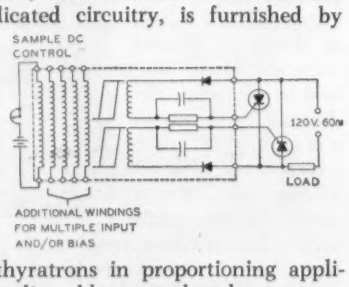
SHOWER HEAD
imparts rotating action to water

Precision turbine and gear in the casing of the Rain Jet rotary shower head imparts a pendulum-type rotating action to the stream of water. The water contacts the body at an angle, regardless of the delivery pressure. Head will fit standard shower fittings and will not corrode or rust. Price is $9.95. Made by **Rain Jet Corp.**, 301 S. Flower St., Burbank, Calif.

▲ For more details circle **NED-563 C9** on enclosed inquiry slip ▲

THYRATRON CONTROL
minimizes required components

Necessary signal for controlling solid state thyratron systems which, in turn, drive inductive and resistive loads without complicated circuitry, is furnished by the Control Amplifier. The device provides a complete solid state system from logic input to power-handling output. It minimizes the amount of component equipment required to control thyratrons in proportioning applications where phase-adjustable control pulses are required. Unit offers proportioning and switching control and also isolates multiple logic inputs. It self-adjusts to input needs. Applications include static switching, temperature control, automatic welding control, variable direct current supply, constant current supply, and pulse width modulation. Made by **Magnetics, Inc.**, Control Div., Butler, Pa.



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3 WEEK DELIVERY

TRUSCON STEEL "BUDGET BUILDINGS"

Call your Truscon representative for Truscon Steel "Budget Buildings" data, details, 3-week delivery to your job site.

Available in widths from 32 to 48 feet—in heights of 12 and 14 feet. All siding, roofing, windows, doors, hardware shipped as a complete package. Call, or write today!

TRUSCON MARK OF MERIT PRODUCTS

REPUBLIC STEEL
TRUSCON DIVISION
Youngstown 1, Ohio

NAMES YOU CAN BUILD ON

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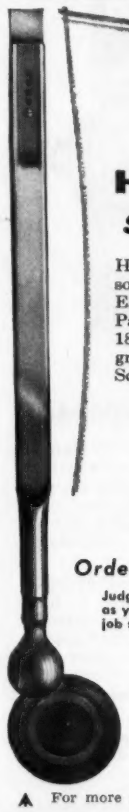

Anderson
IMPROVED HAND SCRAPER
Saves Costly Regrinding

Here are just a few of the advantages of Anderson Hand Scrapers (1) Faster Cutting, (2) Easier to Use, (3) Just the Right Spring, (4) Palm Fitting Grip, (5) Light in Weight, (6) 18" - 20" - 22" lengths. After the original regrinding most users of this new Anderson Hand Scraper find that only honing is necessary.

$6.75 (18") with high speed steel blades

$9.85 (18") with carbide-tipped blades

$1.75 for rubber bumper shown below

Order Today . . . Money-Back Guarantee

Judge for yourself: Order as many Model 5-A Scrapers as you want. Use them a full week . . . if they don't do the job send them back to us for refund.

Write for Bulletin 3-35
ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

▲ For more details circle **NED-566 C9** on enclosed inquiry slip ▲

New VEEDER-ROOT "VISICOUNTER"

Features greater figure-visibility with dome-shaped window, and increased ruggedness and durability. Includes heavy duty counting features well-known to users of Veeder-Root Box-Type Counters. *Speeds:* Ratchet type, 500 counts per minute. Geared types, 1,000 cpm. *Dimensions:* Approx. 4.4" long, 2.8" wide, 2.2" high. Lock and key reset if desired.

EVERYONE CAN COUNT ON

Veeder-Root
INCORPORATED
HARTFORD 2, CONNECTICUT

▲ For more details circle **NED-567 C9** on enclosed inquiry slip ▲

For more precise control of temperature or pressure...

Pneumatic
Controller
Positioner
Valve

NOW IN ONE UNIT

This new field-proved FultroMatic provides control efficiency features never before possible in one unit—at a saving up to one-half the cost of 2- and 3-unit systems!

★ Improved Accuracy ★ Faster Response
★ Positive Positioning ★ Adjustable Proportional Band
★ Field Reversible ★ Simplified Settings

Full Story NOW in Bulletin EY-755

Robertshaw-Fulton CONTROLS COMPANY
FULTON SYLPHON DIVISION
Knoxville 1, Tenn.

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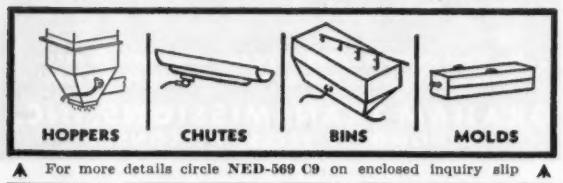
VIBROLATOR®
"WORLD'S QUIETEST VIBRATORS"
MOVES MATERIALS

This vibration inducer has only one moving part — a rolling ball. Works perfectly on wet or dirty air. Need no lubricator. Guaranteed self-starting always. Operates continuously in very hot locations. Absolutely spark-free for hazardous jobs.

The Vibrolator moves material out of hoppers, down chutes and through screens. Compacts concrete in forms or granulars in boxes or drums.

Available in 14 sizes, priced from $12 to $150. "pocket-watch" size to new 28 lb. UCV-64, shown here. Never harms equipment on which it is mounted. Write for catalog today.

MARTIN ENGINEERING COMPANY
155 NEDLOW STREET • NEPONSET, ILLINOIS



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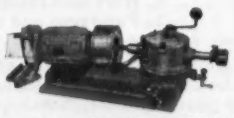
Spiral
SPECIAL CUTTING
Tools

They cut costs because they cut operations... 75% or more!

Custom-designed and precision-made exactly to fit your needs. Spiral Tools boost output and quality. Ask for details.

SHARPEN END MILLS
Quickly, Completely, IN YOUR OWN SHOP



For grinding or milling of any spiral lead. Pays for itself in a hurry. Send for facts today.

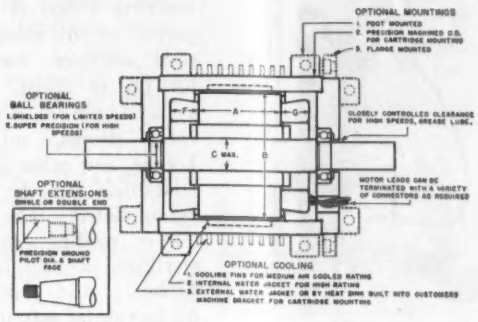
Super MULTI-SPIRAL END MILL GRINDING FIXTURE

SPIRAL STEP TOOL COMPANY
Designers and Manufacturers of All Types of Special Cutting Tools
5400 N. Damen Ave. • Chicago 25, Ill.
Phone: LOngbeach 1-5384

▲ For more details circle NED-570 C9 on enclosed inquiry slip ▲

INDUCTION MOTORS for high frequency, high speed uses

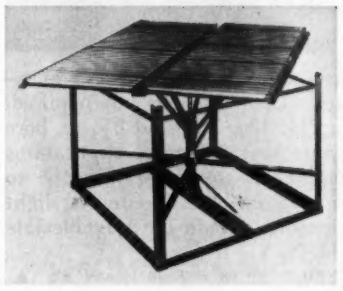
Maximum peak ratings available in line of polyphase induction motors range from 18 hp at 20,000 rpm to 1 hp at 100,000 rpm. Housing diameters are under 6



in. Continuous ratings depend upon the cooling means available. Motors are suited for high frequency, high speed applications. They have been used in integral-motor grinding spindles to cover a speed range from 7200 to 100,000 rpm. Standard flange mounted motors are offered for various frequencies, or they can be built to order. The illustration shows many design features. Made by **Bryant Chucking Grinder Co.**, Springfield, Vt.

▲ For more details circle NED-571 C9 on enclosed inquiry slip ▲

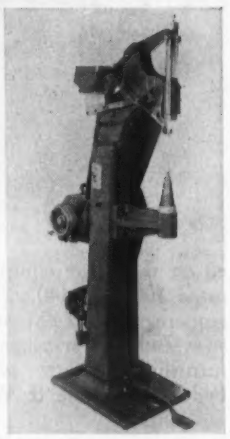
CONVEYOR TURNTABLE is hydraulic-actuated roller unit



Offered with single or double row of rollers in widths, lengths, and capacities for most needs, this conveyor turntable is hydraulically operated. It is raised by hand or motor driven pump, turned to proper position, and then lowered. By permitting close spacing of rollers at transfer point, it speeds material flow. Made by **Sage Equipment Co.**, 30 Essex St., Buffalo 13, N. Y.

▲ For more details circle NED-572 C9 on enclosed inquiry slip ▲

RIVETING MACHINE drives rivets up to 2⅝ in. long



Improved Model 95DP riveting machine has a 10-in. throat, blade hopper, and a choice of 4¼ or 5 13/16-in. strokes. It will automatically feed and set semitubular and full tubular rivets with body diameters up to 0.260 in. and up to 2⅝ in. long. Standard jaws handle any 0.260-in. rivet from 1 to 3 in. long, regardless of head diameter. Machine can be modified to feed and set rivets up to 5⅜ in. long with auxiliary feeding parts. An easy-trip treadle and nonrepeat clutch contribute to the operator's safety. Made by **Tubular Rivet & Stud Co.**, Quincy 70, Mass.

▲ For more details circle NED-573 C9 on enclosed inquiry slip ▲

MERCURY VAPOR LAMPS reflector type has aluminum housing

Flood, spot, and color-corrected Merco-White reflector type Circle-D mercury vapor lights are offered in types for standard and high bay service. Lamps are made in 250, 400, 700, and 1000-w ratings in standard and high voltages. They are protected by a heavy cast aluminum housing and a spring-mounted mogul socket which supports and cushions shocks at the base. Lamp itself is supported by a silicone rubber ring gasket. Standard models have Sure-Lock elevation adjustment. Calibrated stanchion connector bracket permits presetting the light beam pattern before installation. Made by **Natale Machine & Tool Co.**, 339 Highway 17, Carlstadt, N. J.

▲ For more details circle NED-574 C9 on enclosed inquiry slip ▲

NEW! ROWE Mechanical ADJUST-A-DOCK

■ Truck Actuated
■ Counterbalanced
■ 27" Lip Travel

Model: TAL 20,000 Lb. Capacity

The TAL "Adjust-A-Dock" will improve freight transfer, provide safer operation and reduce manual labor. Completely powered by the freight carrier, the platform deck is lowered to the truck bed from its raised, standby position as the truck is backed into the truck lever arms. The platform adjusts to the bed during freight transfer. When the truck pulls away, the platform automatically returns to the "up" position. Its rugged construction and basic operation assures minimum maintenance and long life.

The "Adjust-A-Dock" is available in six models — for mounting in front of an existing dock, or for recess installations.

Write for detailed engineering bulletin.

ROWE METHODS, Inc.
2534-E Detroit Avenue • Cleveland 13, Ohio

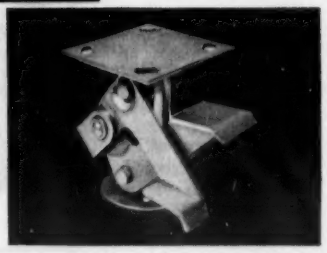
▲ For more details circle NED-575 C9 on enclosed inquiry slip ▲

Free Wheeling, Smooth Swiveling
RUGGED DUTY CASTERS

From the complete Payson, Harris & Reed line of light to extra heavy duty casters, you can select a product that is time-honored and job-proven for your particular application.

Payson 760 Series — Medium duty, all purpose caster. Used with dollies, utility trucks, shop carts, etc. Cold formed steel. Choice of rubber or steel wheels, 1⅝" to 8" diameter. Thread guards available. Corresponding rigids to match.

Harris & Reed Floor Locks — the latest in floor lock design, one pedal for locking the other for releasing. A complete range of sizes assures a safe and sturdy support for all types of portable equipment. Will not mar floor. Easily applied, no maintenance.



PAYSON
CASTERS SINCE 1875
HARRIS & REED

These are only two of Payson and Harris & Reed proven products.
Write for complete illustrated catalog.
2920 W. JACKSON BLVD.
CHICAGO 12, ILLINOIS

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POWERFUL NEW PLUNGER CLEARS
CLOGGED TOILETS
in a jiffy!

Clear messy, stuffed toilets
Cut maintenance costs with
TOILAFLEX
Toilet ALL-ANGLE Plunger

Ordinary plungers don't seat properly. They permit compressed air and water to splash back. Thus you not only have a mess, but you lose the very pressure you need to clear the obstruction.

With "TOILAFLEX", expressly designed for toilets, no air or water can escape. The full pressure plows through the clogging mass and swishes it down. Can't miss!

Get a "TOILAFLEX" for your home too. Positive insurance against stuffed toilet.

• Double cup, double-pressure
• Tapered tail gives air-tight fit
• Designed to flex at any angle
• Centers, can't skid around

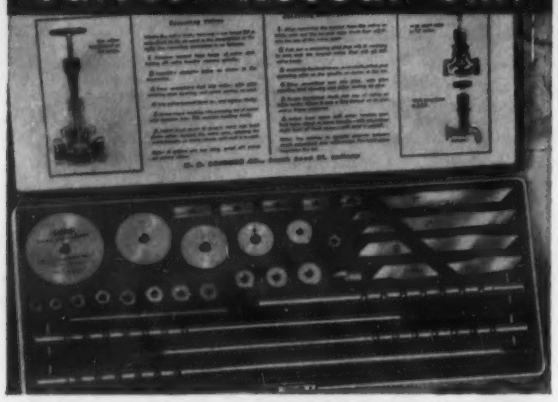
$2.65 Fully Guaranteed

Order from your Supplier of Hardware or Janitor Supplies

THE STEVENS-BURT CO., NEW BRUNSWICK, N. J.
A Division of The Water Master Company

▲ For more details circle NED-577 C9 on enclosed inquiry slip ▲

Don't junk leaky valves—Reseat 'em!



Pays for itself on the first 2 jobs!

Reseats flat and tapered seat globe or angle valves—all bibbs, faucets—quickly and accurately. The saving, over tearing out and renewing leaky valves and fixtures, is tremendous.

Cutters operating under screw feed, leave worn, scored seats glass smooth, level, absolutely tight. The cutter rotates on a level plane and is advanced by slight turns of the feed screw until the job is done.

A guide pilot centers each cutter; a tapered cone centers each spindle. Perfect alignment is inevitable. Cutters guaranteed. Write for literature!

2" for ¼" to 2" valves and ¼" to ¾" bibbs . . $50.25
3" for ¼" to 3" valves and ¼" to ¾" bibbs . . $65.50

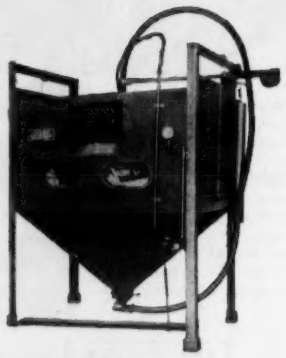
M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

▲ For more details circle NED-578 C9 on enclosed inquiry slip ▲

For fast cleaning of small work . . . Pangborn Blast Cleaning Cabinet

Perfect for small or intermittent jobs! Use the Pangborn Cabinet for production or maintenance . . . with any abrasive at almost any air pressure. Cleans quickly and thoroughly, operates economically and safely. Shipped fully assembled.

Pangborn Corporation, 2400 Pangborn Blvd., Hagerstown, Md. **Manufacturers of Blast Cleaning and Dust Control Equipment**

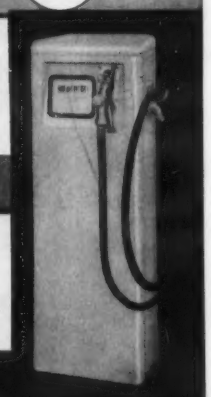


Pangborn
BLAST CLEANS CHEAPER

▲ For more details circle NED-579 C9 on enclosed inquiry slip ▲

FLEET JR. GASOLINE PUMP

Faster, easier, safer refueling—direct drive rotary vane pump delivers up to 12 gpm over a 10-foot lift. Padlock provision ends pilferage.



51 inches high—convenient nozzle location and easy-to-read tilted dial face. Helps you control fuel costs. Sturdy steel construction—lowest maintenance costs.

Available with lighted dial face.

JOHN WOOD COMPANY
BENNETT PUMP DIVISION MUSKEGON, MICHIGAN
IN CANADA: JOHN WOOD COMPANY LIMITED
Toronto • Montreal • Winnipeg • Vancouver

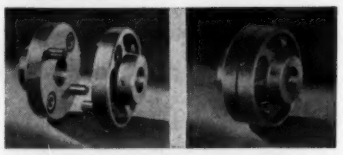
▲ For more details circle NED-580 C9 on enclosed inquiry slip ▲

CAN & DRUM WASHER
sanitizes containers up to 25 in. OD

Pressure propelled, ball bearing spray nozzle that cleans with a scouring action is employed by this stainless steel sterilizer - washer for up to 25-in. OD containers. Refuse cans, drums, mixing kettles, and other large containers can be accommodated. The device washes, rinses, sterilizes, deodorizes, preheats, and precools by foot pedal actuation. It can be set up to use cold water and steam; cold and hot water and steam; cold and hot water; hot water only; and steam only. Bowl is 24 in. above the floor. Made by **Vacuum Can Co.**, 19 S. Hoyne Ave., Chicago 12, Ill.

▲ For more details circle NED-581 C9 on enclosed inquiry slip ▲

FLEXIBLE COUPLINGS
four bore sizes from 1¼ to 2¾ in.



Utilizing steel studs and rubber cushioned sleeve bearings, Series 400 flexible couplings can be used on direct-driven machinery where torque is not excessive in relation to shaft diameter. Lubrication is not required. Couplings are made in 1¼, 1¾, 2¼, and 2¾-in. bore sizes with standard square keys. Typical applications are those where motors are connected directly to pumps, fans, ventilators, mixers, speed reducers, light duty hoists, and compressors. Made by **Ajax Flexible Coupling Co.**, Westfield, N. Y.

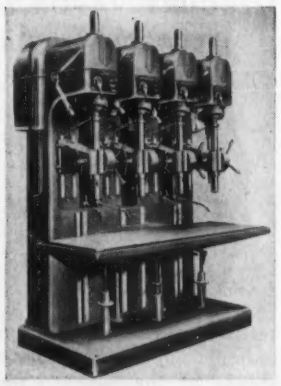
▲ For more details circle NED-582 C9 on enclosed inquiry slip ▲

MOBILE SPOT WELDER
100-kva unit mounted on cart

General purpose spot welding is application for this mobile gun unit, developed for moving from one weld position to another as a unit. Welding transformer, heat regulator, electronic and air controls, air valve, and flexible cables with air-operated gun are mounted on the caster-equipped cart. Machine illustrated is rated 100 kva, 440 v, 60 cycles. Maximum secondary amperage is 16,400 amp. Various other transformer sizes and gun arrangements are available. Shelves are furnished to carry parts and accessories. Made by **Federal Machine & Welder Co.**, 212 Dana St., Warren, Ohio.

▲ For more details circle NED-583 C9 on enclosed inquiry slip ▲

DRILLING MACHINES
three sizes have variable speeds

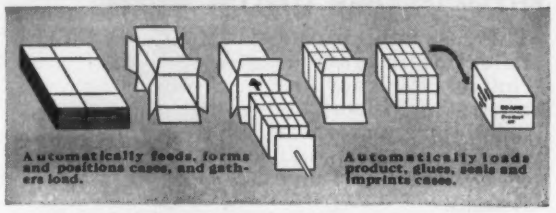


Torque - controlled power feed built into redesigned R-P-Mster variable speed drilling machines is factory-set for maximum torque and will slip with overload, preventing machine damage. One to six-spindle models are offered in three sizes with mild steel capacities of 1, 1½, and 2 in. A timing belt drive eliminates slippage at all speeds. Machines have built-in coolant system and Reeves type variable speed drive. Motors of various ratings are offered. Feeds other than standard, various accessories, and choice of three types of tapping devices are options. Made by **Buffalo Forge Co.**, 215 Mortimer St., Buffalo, N. Y.

▲ For more details circle NED-584 C9 on enclosed inquiry slip ▲

Take the HANDS out of PRODUCT HANDLING

Let Packomatic equipment do any or all your casing operations AUTOMATICALLY



FOR CASING ROUND, SQUARE, RECTANGULAR OR FREE-FORM PACKAGES OF VIRTUALLY ANY SIZE. If you employ even one person per shift to hand-form cases, or to hand-pack, hand-seal, or hand-imprint them, then it can pay you to install Packomatic equipment. Write, phone or wire for facts on how to reduce your casing costs.

J. L. FERGUSON COMPANY
Box 1226, Phone 6-6275, Joliet 12, Illinois

▲ For more details circle NED-585 C9 on enclosed inquiry slip ▲

SELECT SPEED... HOLD SAME... WITH THE Graham Variable Speed Drive

Select a speed—from top to zero with reverse if desired—and it will *Hold* the same speed a month, year, or even two years later. You can duplicate a preset speed with micrometer accuracy of 1/4000 of the dial periphery when you select the *Graham* for your speed control applications.

OUTSTANDING FEATURES

Unlimited Speed Range—From any desired maximum speed to zero, including reverse.

True Compactness—A straight line extension of a standard motor—or available without motor.

Automated Speed Control—To control tension, proportion, synchronization, etc. from any type of control signal.

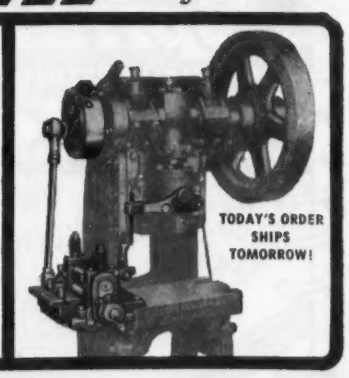
No other variable speed drive sets and resets so accurately—None holds speeds so accurately for so long!

GRAHAM TRANSMISSIONS, INC.
MENOMONEE FALLS, WISCONSIN

▲ For more details circle NED-586 C9 on enclosed inquiry slip ▲

LITTELL Style "M"

The "Install-it-Yourself" Roll Feed That Makes Medium Duty Presses Up to 5 Times More Productive!



Install the Style "M" yourself. Three steps.
1. **Cut and thread the connecting rod.**
2. **Bore and install the disc hub.**
3. **Fabricate and mount lifter bracket.**

Simple instructions in Bulletin 702 furnished with your order make installation easy. 5 sizes. Maximum stock widths, 4" to 12". Left to right feed. Feed lengths, 0-2" through 0-4⅜" with plain gears, and 0-4½" through 0-8½" with compound gears. Engineered feeds with all parts complete are delivered in 4 weeks.

Write for Catalog "A"

F. J. LITTELL MACHINE CO.

SERVING USERS OF COIL STOCK
Branches: Detroit Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

▲ For more details circle NED-587 C9 on enclosed inquiry slip ▲

sure/bore

"Package Plan"

offers...

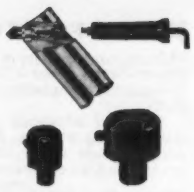
★ CONVENIENCE ★ EFFICIENCY ★ ECONOMY

NEW PACKAGE PLAN INCLUDES:

Boring Bar "4-some Package"...
4 Boring Bars from 7/8" to 1-3/4" dia., with Micrometer adjustment. Tool Bit mounted at 53° or 90° angle. Boring range from 1" to 3-1/8" dia.

Sure-Bore Cartridge "Package"...
"53" or "90" pack includes 3 complete assemblies, cartridges, carbide tool bits, wrenches.

Boring Head "2-some Package"...
includes a 2" and 3" head, 2 long and 2 short tool bits. Boring range 2-3/4" to 5-1/4" dia.



WRITE FOR LITERATURE AND PRICES

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

▲ For more details circle NED-588 C9 on enclosed inquiry slip ▲

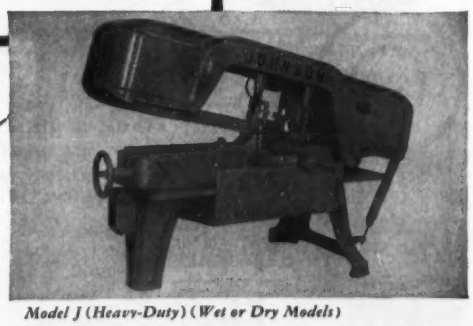
PROTECTED

New, neoprene-base materials of various thicknesses are incorporated in this multiple-spindle protector. Upper flanges of all the individual sleeves snap into position in a .050" neoprene ring where they are retained by a steel, head-mounting plate. Lower collars are clamped. No size limitations. No molds required. Ask for new bulletin AH-3. A&A Mfg. Company Inc., 712 S. 12th St., Milwaukee 4, Wisconsin.

ALL SHAPES AND CONTOURS

▲ For more details circle NED-589 C9 on enclosed inquiry slip ▲

Johnson Speaks for itself in ANY SHOP!



Model J (Heavy-Duty) (Wet or Dry Models)

Johnson Model "J" . . . the heavy duty band saw that speaks for itself. No other saw handles so many operations so easily and so economically. Why pay more when a Johnson Model "J" can cut the 10" rounds, 18" flats and odd shaped steels of your shop in such labor saving time. The Big "J" is completely automatic—and is available in a wet or dry model, both with variable speed and centralized control system. You can't afford to miss any information on the rugged Johnson Model "J". Contact your dealer today!

Johnson MANUFACTURING CORPORATION
Barnes & Taylor Sts., Albion, Michigan

Eastern Distributor	Midwestern Distributor	Western Distributor
R. J. R. KELLY CO.	W. Q. LUNDMARK	HASTINGS DISTRIBUTORS
Hale Bldg., 51 Main St.	75 N. Broadway	1605 Solano Avenue
East Orange, N. J.	Des Plaines, Ill.	Berkeley, Calif.

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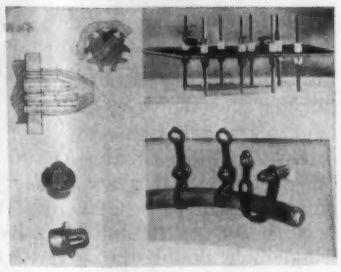
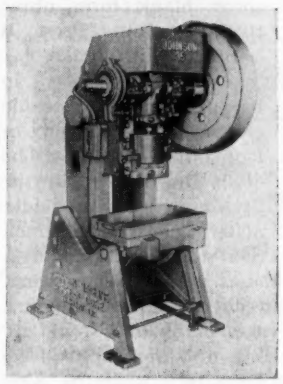
PLASTIC PARTS FASTENER
locking type is vibrationproof



Consisting of a series of molded flutes extending radially from a plastic stud, the Pushlock fastener is pushed into place through a punched or drilled hole by means of drill press, arbor press, or simple hand tools. It makes possible instantaneous insertion and locking for a wide variety of plastic parts. Applications include electrical stand-off and feed-through terminals, drawer glides, casters, antifriction bearings, and cable support clamps. The one-piece, self-fastening design simplifies installation. Parts align perfectly and withstand severe shock and vibration conditions in wood or metal. Made by **Whitso, Inc.**, Dept. NDC, 9330 Byron St., Schiller Park, Ill.

▲ For more details circle NED-591 C9 on enclosed inquiry slip ▲

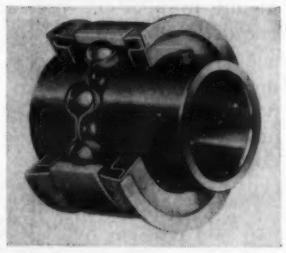
35-TON PRESS
open back inclinable type



Conventional flywheel or back geared styles are available in this 35-ton capacity open back inclinable press. It is equipped with either a pin clutch or Wichita air friction clutch. Press has a one-piece high tensile cast iron frame. The box top, an integral part of the main frame casting, supports the crankshaft bearings and minimizes deflection. Main bearing caps are split on a 30-degree angle to allow the frame to absorb the shock load. Crank strokes range from standard 2½ in. to 6 in. Made by **Johnson Machine & Press Corp.**, 620 W. Indiana Ave., Elkhart, Ind.

▲ For more details circle NED-592 C9 on enclosed inquiry slip ▲

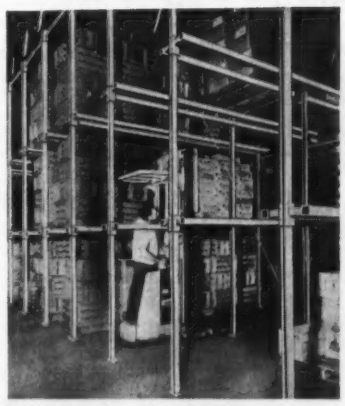
MACHINE BALL BEARINGS
for light loads at normal speeds



Simplex machine unit bearings are made to meet the low cost requirements of many applications. They are designed for light loads at normal speeds and include a single row, deep groove bearing with an extended inner ring. Two setscrews lock the bearing on its shaft. Separable seals may be used singly or on both sides of the bearing. A wire lock ring holds the unit in its straight bore housing. Sizes for ½ to 1 3/16-in. shafts are available. Made by **Hoover Ball & Bearing Co.**, 5400 S. State Rd., Ann Arbor, Mich.

▲ For more details circle NED-593 C9 on enclosed inquiry slip ▲

ADJUSTABLE OPEN-END RACKS
drive-in and drive-through types



Assembled in sizes from two to ten or more pallets deep, this line of open-end adjustable racks provides mass cube storage with a minimum of aisle space. Both ends of drive-through type are open for industrial truck travel all the way through. Loads are handled on a first-in, first-out basis. Drive-in racks can be used against walls, or for truck entrance from either end. Height of opening is easily adjusted on 4-in. centers with the Slide-N-Lock method of assembly. Load carrying stringers are made of square tubing. Made by **American Metal Products Co.**, 5959 Linsdale, Detroit 4, Mich.

▲ For more details circle NED-594 C9 on enclosed inquiry slip ▲

Eastern MIXERS

Mix fluids quickly... thoroughly

To meet a wide variety of process requirements, Eastern offers a complete line from lightweight portables to heavy duty, fixed mounted, propeller and turbine mixers. Each type is available with choice of standard speeds, motor enclosures, mountings, and materials of construction.

PORTABLE MIXERS with ratings 1/20 to 3 H. P. are described in Bulletin 530.

SIDE ENTERING MIXERS	TOP ENTERING MIXERS	TURBINE MIXERS
Handle the extra heavy-duty jobs in big tanks. Sizes ¼ to 30 H. P. Send for Bulletin 620.	Designed for heavy-duty applications requiring agitators from ¼ to 10 H.P. Send for Bulletin 620.	Range of ¼ to 40 H. P. solves many special mixing problems. Send for Bulletin 1210.

EASTERN INDUSTRIES, INC.
Mixer Division, Dept. N, Norwalk, Connecticut

▲ For more details circle NED-595 C9 on enclosed inquiry slip ▲

Give your product a lift with a

WHIZ-LIFTER

MATERIALS ELEVATING MACHINE—Assures speedy, automatic bulk product elevating into hopper of a weighing or filling machine without danger of spillage or breakage! Will handle drugs, hardware, pharmaceuticals, plastics, chemicals, etc., with trouble-free efficiency.

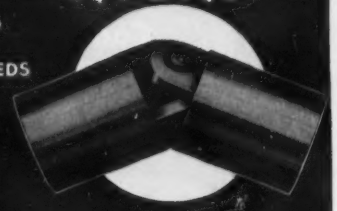
Write for literature

FRAZIER & SON
20-01 INDUSTRIAL WEST, ALLWOOD, CLIFTON, NEW JERSEY
Designers and manufacturers of • Volumetric and Net Weighing Machines • Parts Handling Equipment • Rotary Filling Machines • Conveying & Elevating Equipment

▲ For more details circle NED-596 C9 on enclosed inquiry slip ▲

SAVE $ WITH ATLAS

SHORT STUBBY JAWS
GREATER STRENGTH
SAFETY AT HIGH SPEEDS

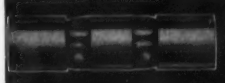


Balanced to operate without vibration at all speeds. Short, stubby jaw design gives maximum resitance to spread. Larger diameter joints fitted with big grease reservoir. Standard alloy steel joints in fifteen sizes for all requirements. Also made in Bronze, Monel and other special metals.

Universal Slip Shafts a speciality.

UNIVERSAL JOINTS

ATLAS STANDARD DOUBLE JOINT



Save money with the only line of STANDARD double universal joints! Twelve sizes available from stock! Write for details.

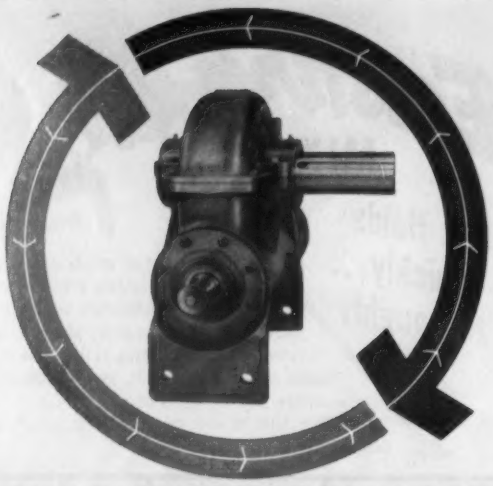
A	C	D	Weight Each
3/4"	7/8"	2 1/4"	.20 lbs.
7/8"	1 1/8"	2 1/4"	.34 lbs.
1"	1 1/8"	3"	.61 lbs.
1 1/8"	1 1/8"	3"	.82 lbs.
1 1/4"	1 1/4"	3 3/4"	1.14 lbs.
1 1/2"	1 3/4"	4 1/2"	2.07 lbs.
1 3/4"	1 3/4"	5 1/4"	3.2 lbs.
2"	1 7/8"	6"	4.86 lbs.
2 1/8"	2 1/8"	7 1/2"	9. lbs.
2 11/16"	2 1/8"	8 1/4"	13. lbs.
3 1/16"	3"	9 1/2"	19.5 lbs.
4 1/16"	3 1/2"	11 1/2"	40. lbs.
5 1/4"	5 1/4"	15 3/4"	80. lbs.
6"	6"	18"	140. lbs.
7 3/4"	6"	18"	200. lbs.

WEST COAST REPRESENTATIVES
LINK-BELT CO.
LOS ANGELES — SAN FRANCISCO
PORTLAND — OAKLAND
SEATTLE — SPOKANE

GRAY & PRIOR

THE GRAY & PRIOR MACHINE CO. 601 WINDSOR ST. HARTFORD 1, CONN.

▲ For more details circle NED-597 C9 on enclosed inquiry slip ▲



TULSA SPEED REDUCERS

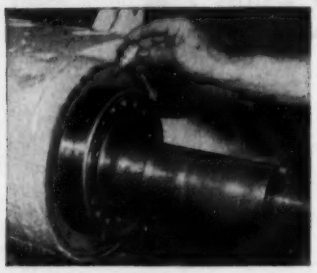
• Low Cost • Compact • Heavy Duty • Worm Gear

Economize on speed reduction costs with Tulsa Speed Reducers. For intermittent heavy duty operation at slow speeds, you can't beat Tulsa Speed Reducers for initial low cost, minimum maintenance and outstanding performance. A wide range of models is available with maximum output torques ranging from 875 to 26,000 pound-feet. Some models available with automatic worm brake. For complete information write for Bulletin No. SR-56.

TULSA WINCH

▲ For more details circle NED-598 C9 on enclosed inquiry slip ▲

"WE REPLACE 9" BEARINGS IN LESS THAN AN HOUR...AND SAVE $155 EACH"



Says David B. Cook, Jr., President, Acme Road Machinery Co., Inc. Frankfort, New York

"Replacing 9-inch bearings in the jaws of a giant rock crusher once required days to bore the housing and build up weld metal for reboring to a .0015" interference fit.

Now, thanks to LOCTITE Liquid Sealant, we prepare the housing, clean and insert the bearing with a slip fit in less than one hour! Crusher jaw bearings locked in with LOCTITE have been in rugged service for many months without report of a single failure."

LOCTITE hardens between bearing and housing to form a bond that exceeds any interference fit . . . requires no heat or mixing. LOCTITE is widely used for slip fitting bearings, bushings, hardened sleeves and rotors on shafts; for locking threaded fasteners or studs securely; for sealing against high-pressure fluids. Write for literature and free sample.

LOCTITE® SEALANT

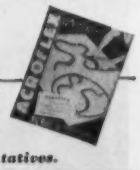
AMERICAN SEALANTS CO. 229 Woodbine St., Hartford 6, Conn.
Stocked by Bearing and Industrial Distributors

▲ For more details circle NED-599 C9 on enclosed inquiry slip ▲

...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

Get more facts FREE



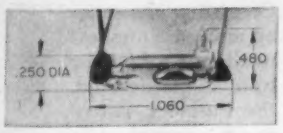
Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-857.

Territories available for qualified representatives.

ACRO METAL STAMPING COMPANY
340 E. Reservoir Ave., Milwaukee, Wis.

▲ For more details circle NED-600 C9 on enclosed inquiry slip ▲

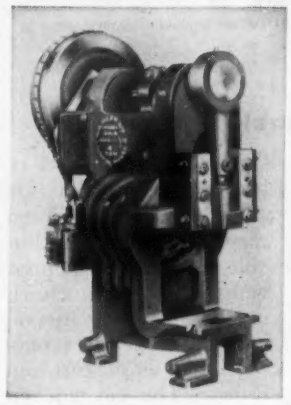
MERCURY SWITCH is exceptionally sensitive



A differential angle of 0.15 degrees and a mass shift of 0.085 grams-centimeter give the AS603AI mercury switch high sensitivity. Switch is designed to meet precise requirements of vertical gyros, stable platforms, and rocket guidance systems. Glass tube is hermetically sealed against dust, dirt, and corrosive vapors. Switch has single-pole double-throw contacts and is rated 0.225 amp, 30 v dc, 400 cps inductive load. It weighs only 3.8 grams and has three 7-in. Teflon-insulated leads. Made by **Minneapolis-Honeywell Regulator Co.,** Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

▲ For more details circle NED-601 C9 on enclosed inquiry slip ▲

BENCH PUNCH PRESS flywheel type has 1/3 hp motor

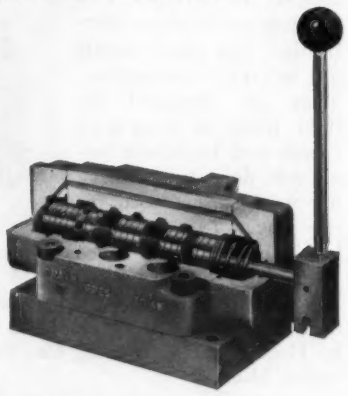


Originally designed for crimping electrical terminals, Model BM-4 4-ton bench type punch press can also be used to punch, shear, blank, form, draw, rivet, or cut. Press is complete with brake, 1/3-hp motor encased in frame casting, solenoid clutch, and a one-hand or foot-control switch. The 40-lb flywheel is in the back and does not hinder material feeding from either side. Press has 6½-in. open die space, 4-in. throat, 2 x 2-in. bed opening, and 4 x 3-in. opening between uprights. Standard stroke is 1 in., although strokes of ¼ to 1½ in. are available at extra charge. Unit measures 24⅝ x 17½ x 10⅝ in. overall and sells for $299. Made by **Alva Allen Industries,** Punch Press Div., 1001-15 N. Third St., Clinton, Mo.

▲ For more details circle NED-602 C9 on enclosed inquiry slip ▲

HYDRAULIC VALVES for up to 6000-psi pressures

Subplate mounted and lever controlled Model 6100 hydraulic valves meet JIC requirements for operation at up to 3000-psi pressures. Valve can be moved manually to either end position; moved manually to "in" position and spring-offset to "out" position, or vice versa; can be spring centered; or held in either end position by ball detent. The 1-in. size is rated 28.2 gpm at 15 fps. Valve is offered in seven basic spool designs and in sizes from ¼ to 2 in. Made by **Rivett, Inc.,** Brighton 35, Boston, Mass.



▲ For more details circle NED-603 C9 on enclosed inquiry slip ▲

MASSAGE CHAIR relaxes the tired executive

The fatigued or tense executive can take a "relaxation break" without leaving his office or stopping his work if he is seated in an office chair equipped with a cyclo massage motor and thermo element. A control panel built into the seat at one side regulates the cycloid vertical - horizontal-circular massage action, as well as the application of heat. The combination of massage and heat is reportedly stimulating, relaxing, and soothing. Massage unit is built into swivel and desk type chairs, offered with leather or Naugahyde coverings in a variety of colors to complement any office decor. Made by **Niagara Therapy Corp.,** Adamsville, Pa.

▲ For more details circle NED-604 C9 on enclosed inquiry slip ▲

ALL NEW...through and through!

the DPS MODEL U power screwdriving machine

Manufacturing assemblies with small parts? Take note! Detroit Power Screwdriver Company announces the totally new Model U—quickly adaptable for fast, clean driving of screws, nuts and studs.

Scores of advances! An adjustable clutch designed to hold constant driving torques. A hopper drive with built-in slip control to accommodate shock loads. A feed track with quickly adjustable covers, and an escapement mechanism with positive solenoid action permitting release of screw by body or head.

A new folder, too. Write for your copy today.

DETROIT POWER SCREWDRIVER COMPANY 15,034
2819 W. Fort St. • Detroit 16, Michigan
A Subsidiary of Link-Belt Company

▲ For more details circle NED-605 C9 on enclosed inquiry slip ▲

ECON'S exclusive

STOP-WATCH ACTION MAKES THE BIG DIFFERENCE

DUAL-ELEMENT cartridge fuses

- Protects completely against shorts and dangerous overloads
- Stops needless fuse blows safely
- Cuts fuse costs and downtime

ECON Dual-Element Fuses eliminate needless blows, yet assure faster, more accurate protection against shorts and dangerous overloads. The exclusive ECON-Alloy thermo element makes the **big difference.** Instead of going through the usual plastic stage, it changes directly from solid to liquid. With its double stop-watch action, it breaks instantly on shorts. And with its pre-determined delayed timing, it safely handles up to 500% overloads without blowing. In knife and ferrule types: 0 to 600 amperes; 250 and 600 volts. Underwriters' Laboratories, Inc., approved.

Ask your Electrical Wholesaler for ECON Dual-Element and other Economy Fuses

Write for ECON Dual-Element Catalog S-60 . . . or full-line Folder.

ECONOMY FUSES FOR EVERY PURPOSE 1508

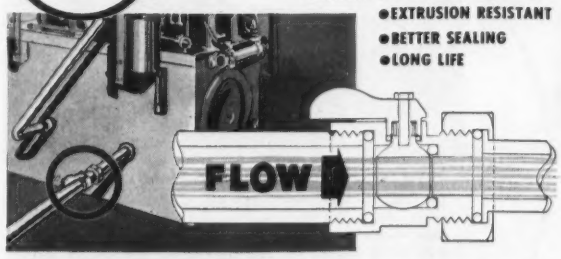
ECONOMY FUSE & MFG. CO., 1508 Greenview Ave., Chicago 14, Ill.

▲ For more details circle NED-606 C9 on enclosed inquiry slip ▲

MINNESOTA RUBBER MR

MINJECTO® O-RINGS

- SPECIAL INDUSTRIAL COMPOUND
- EXTRUSION RESISTANT
- BETTER SEALING
- LONG LIFE



Minjecto is an automated injection molding process to produce high-density, flash-free O-rings more economically than ever before. These O-rings are produced from a 70 durometer compound that has outstanding temperature characteristics, resists oil and chemicals, and has a high tensile strength. It gives Minjecto O-rings extra long life on most industrial applications.

FOR MORE INFORMATION ON MINJECTO O-RINGS

MINNESOTA RUBBER MR

WRITE DEPARTMENT 632 • 3630 WOODDALE AVE. MINNEAPOLIS 16, MINNESOTA

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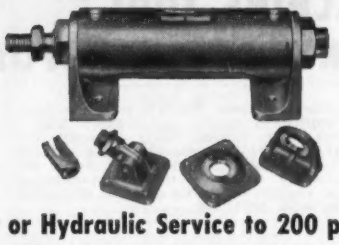
Modernair

ECONOMAIR CYLINDERS

Tops in Quality, Economy, Compactness!



For Air or Hydraulic Service to 200 psi

★ Compact—feed ring head design eliminates bulky end castings!
★ Interchangeable mountings—flange, clevis, L-type
★ "O" ring seals throughout
★ Available in 1⅛", 1½", 2", 3" and 4" bore sizes, any practical stroke length, cushion or non cushion types

Economair series cylinders offer today's best buy in quality cylinders at truly competitive prices—why pay more and get less? Write today for complete specifications, prices.

Modernair CORPORATION
Trademark
Dept. F 3, 400 PREDA ST., SAN LEANDRO, CALIF.
Member National Fluid Power Association 23-R

For more details circle NED-608 C9 on enclosed inquiry slip

DESIGNERS: HERE'S NEW DATA ON THREAD CUTTING

FOR LESS THAN $50 YOU GET 12 SETS, EACH SET GROUND READY TO GO

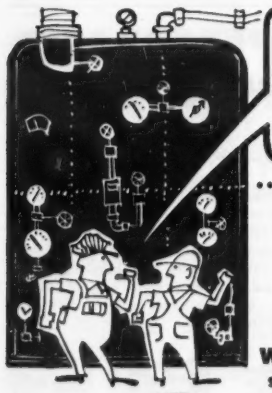
Men would not accept either idea at first . . .

INSERT CHASERS SAVE UP TO 33%

Insert chasers are like safety razor blades: they cost so little that you can throw them away when dull. Or, for utmost economy, you can resharpen them over and over again. Only a flash grind is required. For less than $50 you get a dozen sets of ¾—16 insert chasers, each set ground ready to go. You will be amazed at the quantity of threads they will cut, even to Class 3 specifications, with a minimum of downtime. FREE: "Unified and American Screw Thread Digest"

THE EASTERN MACHINE SCREW CORPORATION
28-48 Barclay Street, New Haven, Conn.

For more details circle NED-609 C9 on enclosed inquiry slip



ALL YOU REALLY NEED ARE

A.O.Smith Burkay® WATER HEATERS spotted at the point of use!

You can cut back boiler operation, eliminate long-line heat losses, enjoy substantial savings in fuel costs, maintenance and labor . . . by installing one or more compact *Burkay* gas-fired water heaters wherever hot water is needed.

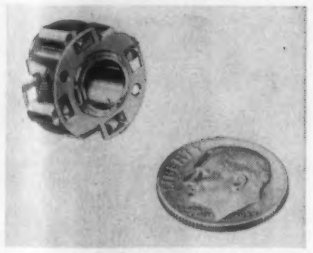
Burkay industrial water heaters are rust-free, fully automatic, economical to operate.

Through research . . . a better way
A.O.Smith CORPORATION
PERMAGLAS DIVISION, KANKAKEE, ILL.
A. O. Smith International S. A.
Milwaukee 1, Wisconsin, U. S. A.

SEND FOR COMPLETE INFORMATION

For more details circle NED-610 C9 on enclosed inquiry slip

ONE-WAY CLUTCH
miniature type for instruments



Drive in one direction and free-wheeling action in the opposite direction is function of the Miniclutch, a miniature one-way roller clutch. Basic roller assembly is available in four sizes for installation in the user's housing. Complete clutches consisting of roller assembly, housing, shaft and, in some models, ball bearings, are also available. Roller assembly sizes range from 0.1875-in. bore and 0.625-in. OD to 0.625-in. bore and 1.625-in. OD. Clutch dimensions range from 0.250-in. shaft with 0.8125-in. housing to 0.375-in. shaft with 1.3125-in. housing. Right and left hand drives are offered. Made by **Miniclutch Co.**, 373 Morse St., Hamden, Conn.

For more details circle NED-611 C9 on enclosed inquiry slip

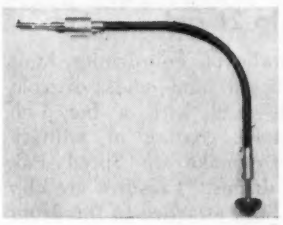
INDUSTRIAL LUMINAIRE
for 4 or 8-ft fluorescent lamps

Low-cost Budgeteer industrial fluorescent luminaire is available for use with two 4-ft or 8-ft standard rapid-start, high output rapid-start, and slimline lamps, as

well as a choice of UL or ETL approved ballast. Tandem units for 40-w rapid-start lamps afford the same ballast selection. Units are Bonderized and finished in baked-on white enamel. End plate connectors are designed for either individual or continuous row wiring. Each unit has provisions for chain, rod, or surface mounting. Made by **Westinghouse Electric Corp.**, Lighting Div., 1216 W. 58th St., Cleveland, Ohio.

For more details circle NED-612 C9 on enclosed inquiry slip

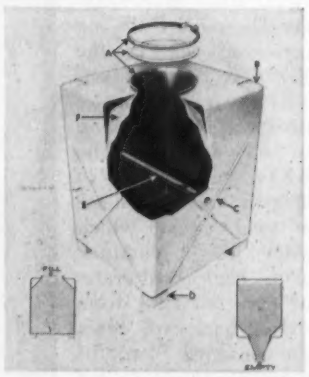
PUSH-PULL MANIPULATOR
introduces motion in vacuum systems



This CA-7 Push-Pull Rotary Seal is installed in vacuum systems where 90-degree translation of motion is required between the vacuum chamber and operator's position. It will introduce both rotary and vertical motion into vacuum systems operating as low as 1 x 10^{-6} mm Hg. Device is capable of continuous 360-degree rotation and 4 in. of vertical motion. It consists of a sliding shaft seal, flexible drive shaft, rigid 90-degree shaft housing, and mounting bushing. Applications include positioning and rotating work to be vacuum metallized; precise manipulation of shields, soldering irons, and fixtures in vacuum bell jars; and adjustment of components during operation of electron beam welding apparatus. Made by **High Vacuum Equipment Corp.**, 2 Churchill Rd., Hingham, Mass.

For more details circle NED-613 C9 on enclosed inquiry slip

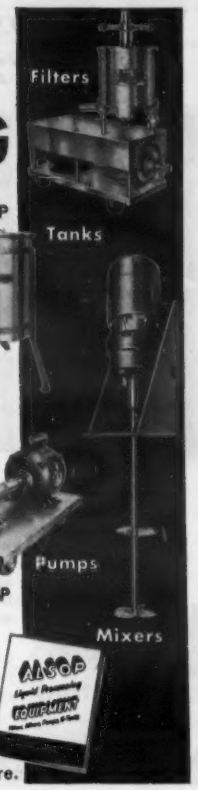
BULK HANDLING SYSTEM
for all types of "loose" materials



Recently acquired from Delta Tank Mfg. Co., Invert-A-Bin semi-bulk handling system facilitates the handling, storage, and shipment of chemicals, grains, plastic pellets, foods, and other dry granular products. It is suited for inter and intraplant use. The container has a drum type closure with a 22-in. wide opening for easy loading and inspection. Internal transition cone assures complete unloading when inverted. Trunnion tube aids in overhead handling and dumping. Nesting pockets and legs permit stacking or fork and power truck handling. Now made by **Powell Pressed Steel Co.**, Hubbard, Ohio.

For more details circle NED-614 C9 on enclosed inquiry slip

LIQUID PROCESSING



DEPEND ON ADVICE FROM ALSOP

Engineering and Laboratory assistance, at no charge, to solve your equipment problems in...

. . . LIQUID FILTRATION
. . . LIQUID MIXING
. . . LIQUID STORAGE
. . . LIQUID PUMPING

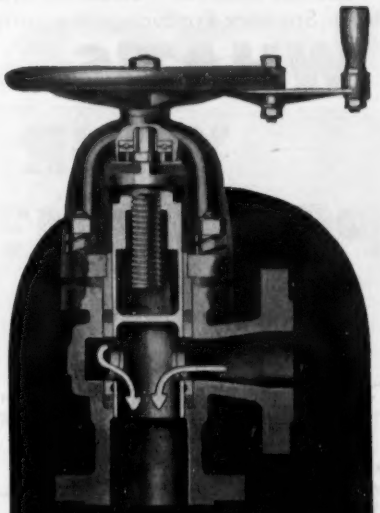
Remember, a complete report on your liquid processing problems is FREE!

DEPEND ON EQUIPMENT FROM ALSOP

ALSOP Engineering Corporation
1403 East Road
Milldale, Connecticut

Send for analysis forms and literature.

For more details circle NED-615 C9 on enclosed inquiry slip



YARWAY SEATLESS BLOW-OFF VALVES

the lowdown on blowdown

Over 16,000 boiler plants depend on Yarway Seatless Blow-Off Valves. Pressures to 600 psi. Single or tandem combinations. For free Blow-Off Valve Book write YARNALL-WARING Co., 131 Mermaid Ave., Philadelphia 18, Pa.

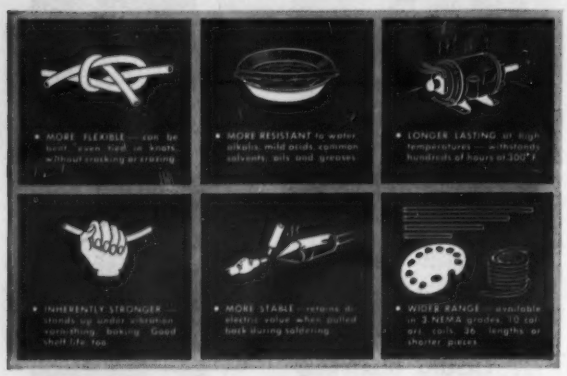
Branches in all principal cities.

go YARWAY with confidence

For more details circle NED-616 C9 on enclosed inquiry slip

Where can you use VARFLO?

(the highly flexible Class B Sleeving and Tubing that licks Class A in performance—equals it in price)



Cuts inventory, too! Superior to Class A insulation in performance—yet on a par with it in price—Varflo Sleeving and Tubing can be used economically for all Class A and Class B installations. This low-cost adaptability of Varflo enables many of our customers to achieve substantial savings in inventory. Available in NEMA Grades A-1 and B-1 tubing and Grade C-2 sleeving.

Perhaps Varflo can solve your insulating problems. Describe them in a letter—no cost or obligation for our recommendations.

Varflex CORPORATION
Makers of Electrical Insulating Tubing and Sleeving

Send for FREE Test Samples

510 W. Court St., Rome, N. Y.

▲ For more details circle NED-620 C9 on enclosed inquiry slip ▲

In industrial **MARKING • STAMPING** and **STENCILLING** • Speedry Products are *clearly* best!

WHAT'S YOUR PROBLEM?

STENCILLING through oil-slick on drums and cans

HAND-ADDRESSING cartons, crates, burlap, plastic bags, metal

DIP-COAT IN COLOR on copper wire, glass, diodes, connectors

MARKING—tubes, hides, glass ...subject to chemical treatment

COLOR-CODING steel and aluminum rod, bar, sheet stock —by hand

INSPECTION MARKS on assembly line—glass, waxed, painted parts

AUTOMATIC STAMPING on electronic tubes, small parts, curved surfaces

What's your problem in marking, stamping, stencilling? Color? Viscosity? Surface? Downtime? Durability? Cost? These and many other considerations are *routine* in a Speedry analysis. Supplying special-purpose inks, devices *and methods* has been Speedry's specialty for two decades. More than 100 Speedry Products comprise its line of special and standard inks, devices, accessories and sets. *A free catalog is yours for the asking showing each item and the industrial use for which it was developed.**

Patented under one or more of these numbers: 2416596 2523879 2547541 2713176 2805641 Other U.S. and World Patents pending.

Speedry also makes the world-famous Magic Marker and Speedry "Capac" Brushpens. "Capac" means automatic self-fill, self-feed with *no loose ink.*

***FREE!** Send for your catalog of Speedry Products showing inks, devices *and special industrial marking, stamping and stencilling for which they were developed.*

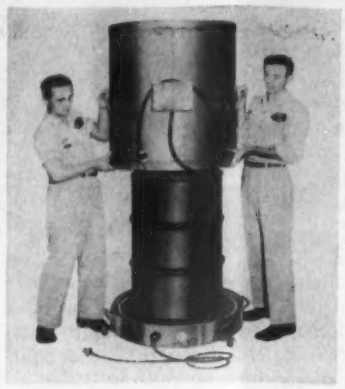
SPEEDRY PRODUCTS, INC.

DEPT. EQ-2, RICHMOND HILL 18, N.Y. © 1959 SPI

Factories in New York, Albuquerque. Distributors in all major cities in the U. S. and in countries throughout the free world.

▲ For more details circle NED-621 C9 on enclosed inquiry slip ▲

DRUM HEATER
lightweight unit heats to 550° F



Drums of tars, heavy oils, greases, paints, plastics, and other products can be heated or melted with this two-piece drum heater. It consists of a roll-away base and a cylindrical portion, plus an insulated cover, all built of aluminum. Close spacing of heating coils provides uniform heat over the entire drum surface. Heater and base unit have individual thermostats for controlling temperature up to 550° F. The 36-in. high, 24-in. ID cylindrical portion is rated 6000 w, 230 v and sells for $340. The 1800-w 230-v base unit is priced at $200. Made by **Glas-Col Apparatus Co.**, 711 Hulman St., Terre Haute, Ind.

▲ For more details circle NED-622 C9 on enclosed inquiry slip ▲

SLIDING SHELF SHELVING
adjusts quickly without tools

Eight standard sections and extra parts to tailor-made sections to meet diverse requirements are available in sliding shelf shelving. All sections, including dividers, label holders, and shelf boxes, are quickly adjustable without tools for storage of books, packaged goods, small parts, and office supplies. Sections measure 12 5/16 x 37⅞ x 84 in. Sliding shelves are adjustable on 1½-in. centers. Choice of gray, green, or taupe baked enamel finishes is offered. Made by **Lyon Metal Products, Inc.**, 2 Clark St., Aurora, Ill.

▲ For more details circle NED-623 C9 on enclosed inquiry slip ▲

FIBER DRUMS
four sizes hold 2 to 26 gal

Sidewalls of Fourdrinier kraft linerboard and ends of cold rolled steel with a baked-on protective coating of sanitary varnish make up Speedy-Pak fiber drums. Closures are clip type lugs, attached to the drum body. Drums can be vertically stacked and have a protective bottom flange. Diameters of 11¼, 12½, 14, and 15½ in. are offered. Heights are from 5 to 32 in., according to diameter. Their capacities range from 2 to 26 gal, and net weight packing range is 60, 115, 150, and 225 lb for dry and solid articles. Made by **Bennett Industries, Inc.**, Peotone, Ill.

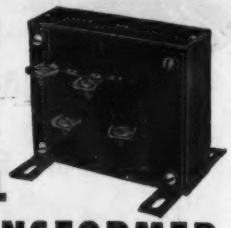
▲ For more details circle NED-624 C9 on enclosed inquiry slip ▲

STEEP ANGLE CONVEYOR
conveys bags and crates up or down

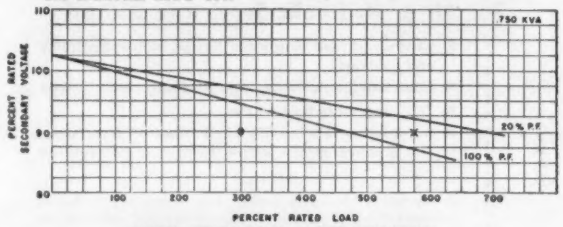
Application of a Quaker-Thermoid Ruff-Top conveyor belt to the E-Z Lift conveyor enables it to transfer products at angles up to 45 degrees. The belt, cut in short lengths and spaced on a steel chain which rides in a channel, grips bags and crates to prevent them from sliding backward down the conveyor. Lengths from 21 to 33 ft are shipped assembled, with longer units assembled on the job. Conveyor is driven by ½ to 1½-hp electric motor or gasoline engine, exact size depending upon length and commodity being conveyed. Made by **Machinery Development Corp.**, 10995 E. Mississippi, Denver, Colo.

▲ For more details circle NED-625 C9 on enclosed inquiry slip ▲

is this the kind of performance you want in a MACHINE TOOL CONTROL TRANSFORMER



This line of Acme Electric machine tool transformers has ability to handle momentary high overloads far beyond their normal rated capacity. Because of this inherent overload capacity when needed, it is often possible to use a smaller size Acme Electric control transformer than the usual conventional types. This typical regulation curve is proof of performance. Write for Bulletin MTC 307.

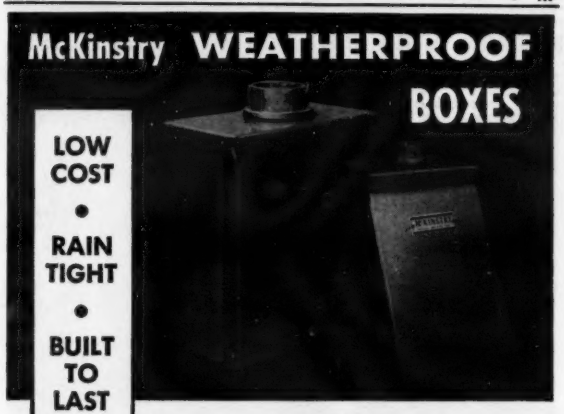


ACME ELECTRIC CORPORATION
303 Water St. Cuba, N.Y.

Acme ACME Electric TRANSFORMERS

▲ For more details circle NED-626 C9 on enclosed inquiry slip ▲

McKinstry WEATHERPROOF BOXES



LOW COST • RAIN TIGHT • BUILT TO LAST

McKinstry Weatherproof Junction Boxes are made to withstand the severest of elements and are perfect for use on farms, trailer parks and construction sites. McKinstry Boxes feature a watertight Scru-Tite hub with O-Ring and external mounting strips that can be used flat or bent to wrap around a pole. These low-cost Boxes are available in both screw-cover and hinged-cover type.

***Write Dept. 20-E** for catalog and price list showing complete line of McKinstry Weatherproof Boxes, Panel Boards, Wireways and Fittings.*

McKinstry Metal Works, Inc.
285 McKinstry Avenue
CHICOPEE, MASSACHUSETTS

▲ For more details circle NED-627 C9 on enclosed inquiry slip ▲

LET H&K PERFORATED MATERIALS

put personality into your products

Illustrated, in reduced size, are a few in the wide selection of H & K patterns.

When your products require perforated materials, you will find the pattern "just right" for that custom look in the vast selection of H & K existing dies.

H & K facilities enable the perforating of practically all metals, wood, compositions and plastics. Perforated materials can be furnished in sheets, coils, rolls or plates. Fabricating services include shearing, rolling, welding and forming.

Functional or Decorative Uses

For whatever purpose perforated materials are required, H & K can fill the need. Appropriate metals can be ordered with color anodized, brushed and lacquered, painted, chrome plated, baked-on, or other special finishes.

Many patterns in steel sheets are in stock. Send for H & K Stock List Brochure.

FIND NEAREST H&K AGENT IN THE 'Yellow Pages'

Listed Under "Perforated Metals"

Write for General Catalog No. 75, Today!

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • *New York Office and Warehouse*
5658 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York 6

▲ For more details circle NED-628 C9 on enclosed inquiry slip ▲

DEKA BORE

OFFSET BORING HEADS

UNPARALLELED
- ACCURACY
- RIGIDITY
- SIMPLICITY
- DURABILITY

REPEAT TO .0001" IN 30 SECONDS WITHOUT BACKLASH! CAN BE ADAPTED TO FIT ANY MACHINE

100% GUARANTEED! WRITE FOR CATALOG!

PRECISION

PRECISION TOOL & MFG. CO. of ILLINOIS
1305 SOUTH LARAMIE AVE., CICERO 50, ILL.

For more details circle NED-629 C9 on enclosed inquiry slip

BOWSER

PORTABLE WHEEL TANK

TRANSPORTS LIQUIDS . . . . QUICKLY . . . . SAFELY

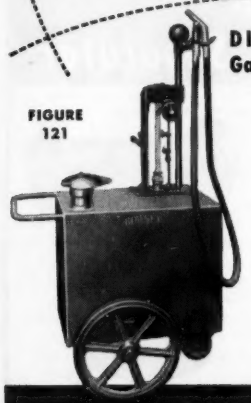


FIGURE 121

DISPENSES AND REGISTERS
Gallons, ½ Gallons, Quarts, Pints

Oils, solvents, process liquids . . . are all transported quickly, easily, safely . . . and dispensed accurately in controlled quantities. A piston-type measuring pump with counter records up to ten gallons and repeats or resets. Protecto-Seal fill-and-vent with built-in flame arrestor assures safe handling of flammable liquids. Anti-drip nozzle. 50-gallon tank. Convenient delivery hose.

ALSO AVAILABLE . . .

Figure 63	Figure 172	Figure 41	Figure 109
Measures quart, pint, or ½-pint. Anti-drip nozzle. Pump is lockable. 65-gal. tank.	Completely enclosed. Hinged, lockable cover. Same pump and tank as Figure 63.	Floor stand pump for low-level tanks. Measures gals., ½ gals., qts., pints. Lockable.	Dispenses and records gal., ½ gal., qt. and pt. quantities. 65 or 120-gal. tank.

BOWSER, Inc., 1381 EAST CREIGHTON AVENUE FORT WAYNE, INDIANA

For more details circle NED-630 C9 on enclosed inquiry slip

Moderate in Price

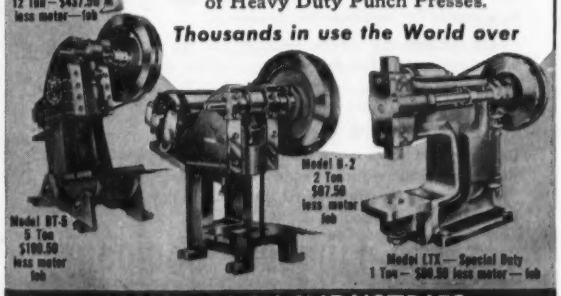
ALLEN
HEAVY DUTY
PUNCH PRESSES

POWERFUL • DEPENDABLE
ECONOMICAL
FULLY GUARANTEED

Hundreds of different Model Combinations 1 to 12 ton Capacities

See your Supply Dealer or write for catalog giving complete information, specifications and prices on our line of Heavy Duty Punch Presses.

Thousands in use the World over



ALVA ALLEN INDUSTRIES
Dept. NED, Clinton, Missouri

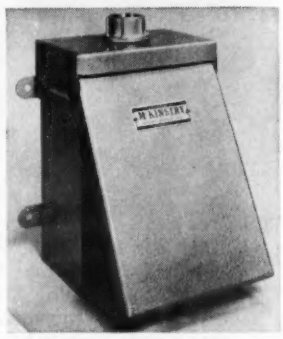
For more details circle NED-631 C9 on enclosed inquiry slip

HAND SANDERS
have tungsten carbide grit surface

Copper brazing tungsten carbide grit to a steel shoe forms the lifetime abrasive surface of these hand sanders available in medium (80 grit) and fine (150 grit). They reportedly cut twice as fast as ordinary sandpaper and can be used on wood, plastics, and composition materials. Shoe is mounted over a ⅛-in. felt pad on a 2¾ x 5½-in. wood block. The abrasive surface will not wrinkle, shred, or tear, and resists clogging because of the controlled grit spacing. It can be cleaned with a wire brush or solvent. Sanders are priced at 99 cents each. Made by **Millers Falls Co.**, Greenfield, Mass.

For more details circle NED-632 C9 on enclosed inquiry slip

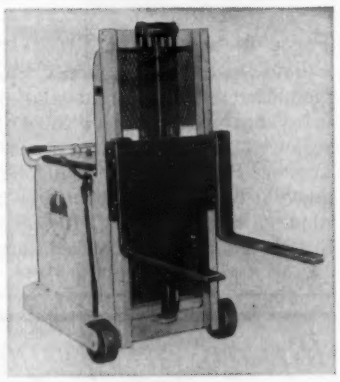
WEATHERPROOF BOXES
junction type have knockouts



Both screw cover and hinged cover models are available in this line of weatherproof electrical junction boxes. Made of 16-gage Galvanealed, zinc coated, Bonderized sheet with a gray baked enamel finish, they have a water-tight Scru-Tite hub with O-ring. External mounting strips can be used flat or bent to wrap around a pole. Screw cover type is offered in 5½ x 6 x 3¼-in. and 7¼ x 6¾ x 4½-in. sizes for $8.95 and $10.25, respectively. Hinged cover type is made in 9 x 6 x 4½ in. and 14 x 7 x 5½-in. sizes selling for $11.03 and $13.26. Made by **McKinstry Metal Works, Inc.**, 285 McKinstry Ave., Chicopee, Mass.

For more details circle NED-633 C9 on enclosed inquiry slip

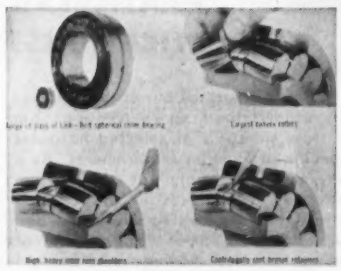
FORK LIFT TRUCK
counterbalanced unit lifts 1000 lb



Maneuverable Model 3062 Counterweight fork lift truck can handle double-faced pallets in addition to wire coils, tote pans, rolls, dies, jigs, and carboys. Unit's counterbalancing principle adapts it to any specific weight lifting problem from 1 to 1000 lb. Drum Tilter is only 22 in. wide overall and is suitable for solid drum stacking and travel within 24-in. aisles. Unit lifts loads up to 90-in. heights. Made by **Big Joe Mfg. Co.**, Industrial Road, Wisconsin Dells, Wis.

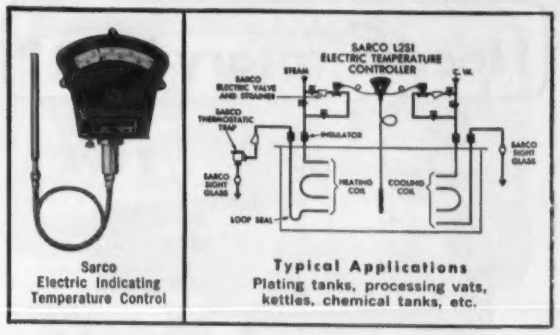
For more details circle NED-634 C9 on enclosed inquiry slip

SPHERICAL ROLLER BEARINGS
load ratings up to 288,000 lb



Maximum diameter and quantity of convex rollers for each size; precision centrifugally - cast bronze retainers; and high, heavy inner race shoulders are features of these self-aligning spherical roller bearings. Bore sizes range from 1.5748 to 11.0236 in. with dynamic load ratings up to 288,000 lb. The heavier inner race shoulder allows easy assembly or removal of bearings from shafts with conventional shop equipment. Bearings operate at high speeds, low temperatures, low noise level, and have center groove lubrication. Pillow block bearings in 1 7/16 to 10-in. bore sizes will also be available. Made by **Link-Belt Co.**, Prudential Plaza, Chicago 1, Ill.

For more details circle NED-635 C9 on enclosed inquiry slip



Sarco Electric Indicating Temperature Control

Typical Applications
Plating tanks, processing vats, kettles, chemical tanks, etc.

Stop losses caused by uncertain

TEMPERATURE CONTROL

Hit-or-miss manual temperature control is uncertain, wastes steam and water. In processing, it's bound to cause uneven or inadequate heating, slow-downs, interruptions.

Product quality suffers. Rejects mount. Costs go up.

You can end these headaches by turning over the responsibility of temperature control to always-reliable Sarco ELECTRIC INDICATING temperature regulators.

Simple, inexpensive. No gadgets for a technician to read or repair. Cost . . . only about $100.

Adjustable, indicating. Responsive to temperature changes of ± ½°F.

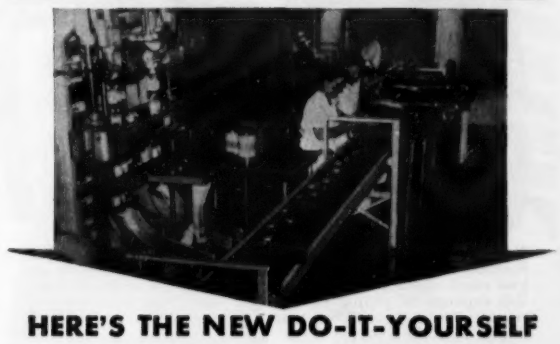
Offer many sequence combinations such as step heating.

Write for Bulletin 1025 to Sarco Company, Inc., 635 Madison Ave., New York 22, N. Y. 2236-F

SARCO

For more details circle NED-636 C9 on enclosed inquiry slip

LOOK



HERE'S THE NEW DO-IT-YOURSELF

WENDWAY

CONVEYOR SYSTEM

• Simple or Complex—Wendway unitized assemblies may be easily ceiling mounted to save valuable floor space.

• Wendway assemblies are ideal for all light production and processing work. May be caster mounted for full portability.

• Where solid belt conveyor is required, canvas, Neoprene, rubber, etc., can be supplied to meet the need.

● Wendway, the light product (linked wire belt type) conveyor system, is now available in complete, prebuilt assemblies—ready for installation in your plant by your own workmen.

Now—you save installation and supervision costs plus time and manpower. Why? Because Wendway unitized sections are all pre-engineered, prebuilt and guaranteed to operate flawlessly on practically any light product use.

It's so easy—Wendway assemblies are available in standardized powered straight sections, curves, switches, inclines, declines in 6", 9", 12", 15", 18", 24" and 30" belt widths. Curved sections of 90° or 180° and gearhead power units to match your needs. For heavier application, pre-engineered straight sections, equipped with *solid* belting, are available.

Write today for detailed information or conveyor system planning assistance. USP representatives will gladly supply the facts—without obligation.

ATTENTION DISTRIBUTORS!
A limited number of exclusive territories are still available. Contact USP for information.

UNION STEEL PRODUCTS CO.
505 N. BERRIEN ST. ALBION, MICHIGAN

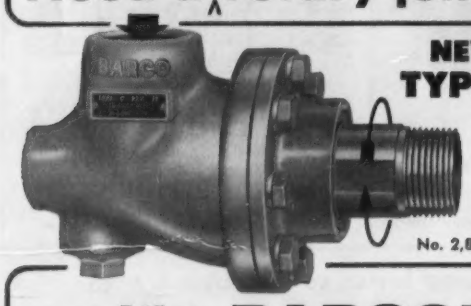
Gentlemen:
Please rush me detailed information, specifications and prices on your Wendway conveyor assemblies.

Name_____
Company_____
Address_____
City_____ Zone___ State_____

Please have your representative call at once ☐

For more details circle NED-637 C9 on enclosed inquiry slip

Need a Better rotary joint?



NEW TYPE C

Patent No. 2,836,439

—it's BARCO!

For countless applications, Barco's new Type C Rotary Joint will give you the best operating records you've ever had—*and for LESS COST!*

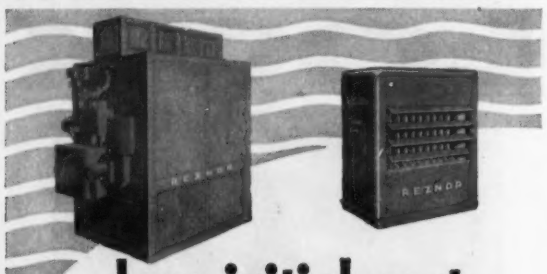
"CRACK-FREE" CHROME PLATED SLEEVE—A standard Barco feature. Minimizes corrosion, friction, wear. Stainless steel spring also standard.

RESISTS SEAL RING BREAKAGE—The spherical seal ring is under compression, not *tension*, loading. Self-adjusting for wear. Seal withstands shock loads and alternating hot and cold service.

WIDE SPACED BEARINGS—Two, instead of one . . . increased bearing area. No lubrication required. Lowest friction.

200 P. S. I. STEAM RATING—Heavy duty service at *no extra cost.* Eight sizes, ½" to 3". *Send for new Catalog 310 today.* **BARCO MANUFACTURING CO., 530D Hough Street, Barrington, Illinois.**

For more details circle **NED-638 C9** on enclosed inquiry slip



low initial cost

You get more heating capacity per equipment dollar with Reznor gas unit heaters because the heaters alone are all you need. Reznor heat is on-the-spot heat. You don't have the expense of piping or ducts to carry the heat from a remote heat source. That means savings on materials, and on installation too.

LOW INITIAL COST is just one of many reasons why Reznor gas unit heaters are right for so many plant heating jobs. These completely automatic packaged units also offer substantial savings on installation, operation and maintenance costs. Whether you need one unit to eliminate a "trouble" spot or enough units for a complete plant heating system, ask your Reznor distributor for details or write for your free copy of "Modern Heating".

Look for Reznor under "Heaters-Unit" in the Yellow Pages

REZNOR WORLD'S LARGEST-SELLING DIRECT-FIRED **UNIT HEATERS**

Reznor Manufacturing Company, 41 Union Street, Mercer, Pa.

For more details circle **NED-639 C9** on enclosed inquiry slip

NOW... cut drill costs in 10 seconds!

this free folder tells how

This illustrated 4-page booklet shows you the fastest, easiest way ever developed to keep your costly drills sharp . . . and keep the savings—shows how anyone in your plant can restore dull drills to like-new sharpness in just 10 seconds with the Black Diamond Drill Grinder.* If your time, your money, and your drill costs are worth saving, send for this free booklet today.

Write exclusive distributor:

EDWARD **BLAKE** COMPANY, INC.

Dept. 8, 440 Cherry St., West Newton 65, Mass.

***Black Diamond Saw & Machine Works, Inc.**

Natick, Mass.—Manufacturers of Black Diamond and Worcester Drill Grinders.

Black Diamond Drill Grinders: For #70 drills up to ¼"

Worcester Drill Grinders: For ⅛" drills up to 2½"

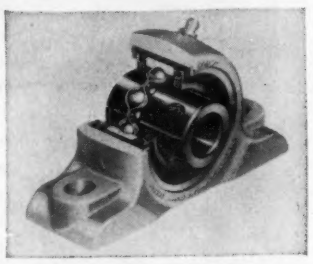
For more details circle **NED-640 C9** on enclosed inquiry slip

VOLTAGE REGULATOR CONTROL responds to volt change in 2 cycles

Available as an optional feature on G-E Inductrol single and three-phase induction voltage regulators, this high speed control unit responds to voltage changes in 2 cycles or less. It is offered for use on regulators rated from 850 va to 1000 kva, and is temperature compensated over a range of −60 to 60° C. Accuracy is within ±1 per cent. The control meets Military Specification E-16400B and withstands up to 30-g nonoperational shock. Made by **General Electric Co.**, Voltage Regulator Product Section, 100 Woodlawn Ave., Pittsfield, Mass.

For more details circle **NED-641 C9** on enclosed inquiry slip

QUIET PILLOW BLOCKS rubber suppresses noise, vibration



"Sound-conditioned" pillow block ball bearings have a synthetic rubber cushion between the bearing's outer ring and the pillow block housing to insulation against vibration and suppress noise. Designed for quiet operation, the bearings have Hoover Honed raceways and Micro-Velvet balls. Housings are a lightweight, ductile material that resists shock and vibration. Units are available in five shaft sizes from ½ to 1 in. Simplex machine unit bearing used in the pillow blocks is offered separately. It consists of a prelubricated, single-row bearing with large balls and deep raceways, plus two seals and a wire lock ring for use in mounting. Outer bearing diameter is enclosed with the same oilproof synthetic rubber cushion. Made by **Hoover Ball Bearing Co.**, 5400 S. State Rd., Ann Arbor, Mich.

For more details circle **NED-642 C9** on enclosed inquiry slip

Force Measurement

Baldwin-Lima-Hamilton Corp., Electronics & Instrumentation Div.—Current state of the art of electronic force measurement with SR-4 bonded strain gages is reviewed in 16-page illustrated Modern Force Measurement Booklet No. 1-Principles. In semitechnical language it describes and compares modern industrial techniques for measuring force, weight, pressure, etc. Sketches, charts, and diagrams are included.

For more details circle **NED-643 C9** on enclosed inquiry slip

It pays and pays and pays...

to use L&S SAWS & KNIVES CUSTOM MATCHED TO YOUR PARTICULAR APPLICATIONS!

A large mid-west manufacturer of decorative laminates reports 400% longer life between grinds with L&S customized carbide-tipped saws.

SOLD ON TERMS THAT GUARANTEE COMPLETE SATISFACTION

90% or more of our carbide knives and carbide-tipped saws are custom built from materials of selected hardness to specific production requirements. As a result, they invariably far out-perform other saws and knives in the carbide category both in cutting efficiency and reduction of downtime and number of grindings required. Savings over conventional steel knives and saws are almost unbelievably large. By all means write for our catalog before buying any carbide tipped saws or solid carbide knives for planers, shapers, molders, or any other application.

LS LEMMON and SNOAP

2618 THORNWOOD ST., S.W. • GRAND RAPIDS 9, MICH.

We Repair All Types and Makes of Carbide-Tipped Saws . . . 24-Hour Service

For more details circle **NED-644 C9** on enclosed inquiry slip

HALLOWELL steel collars simplify design and purchasing

43 stock sizes for shafts from ⅛ to 3 in. diameter

Standardized HALLOWELL solid steel collars are precision machined from first quality bar stock, have perfect balance, fine finish. Bore size stamped on face of each collar for quick size identification. Your choice of socket set screws: UNBRAKO self-locking knurled cup point or, where locking action is required with a plain cup or flat point or against extra hard shafts, UNBRAKO socket set screws with the Nylok* self-locking feature. See your HALLOWELL distributor or write for new Bulletin 868. Hallowell Collar Division, STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

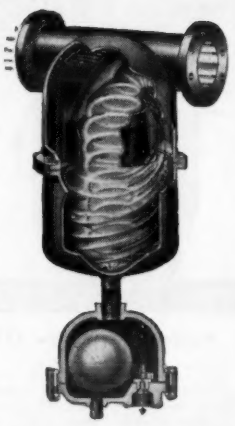
*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

For more details circle **NED-645 C9** on enclosed inquiry slip

New Design Assures Maximum Entrainment Removal With Low Cost "T" Separator



Redesigned annular passage increases centrifugal force. Separated moisture, oil and solids travel outer wall to lower collecting chamber. Large diameter, high level outlet reduces velocity, eliminates entrainment problems. Screwed ends ½" thru 3". 125 lbs. flanged ends 2½" thru 8". Low cost in-line installation.

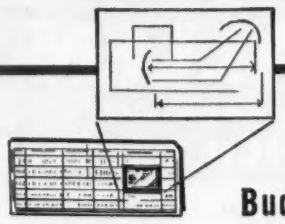
Combined with No. 90AC automatic drain trap to prevent loss of steam, air or gas provides most efficient and economical separator-drain combination available.

WRITE FOR BULLETIN TB-541-B

WRIGHT-AUSTIN COMPANY

3245 WIGHT STREET • DETROIT 7, MICH.

For more details circle **NED-646 C9** on enclosed inquiry slip



Stretch Your Engineering Budget with

Filmsort®

Aperture Cards

Many are the reasons why companies use Filmsort aperture cards for engineering drawings.

One company saves enough on its fire insurance premium to pay for the system; another gets its savings from vault space. A third says it is the only way to have real security.

Maybe the fourth has the best reason of all—it finds its engineers have more time to engineer. You will agree these are four good reasons for reading our booklet, "The Filmsort Aperture Card for Your Engineering Drawings and Allied Records".

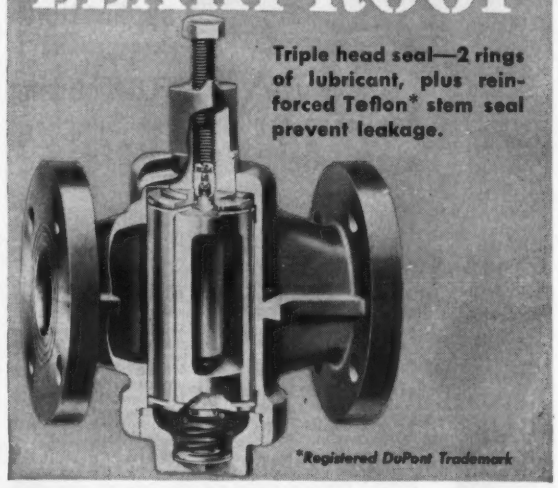
The Filmsort Company

Pearl River, New York

A DIVISION OF MIEHLE-GOSS-DEXTER, INC.

For more details circle **NED-647 C9** on enclosed inquiry slip

In the spots that count . . .
HOMESTEAD® VALVES ARE
LEAKPROOF



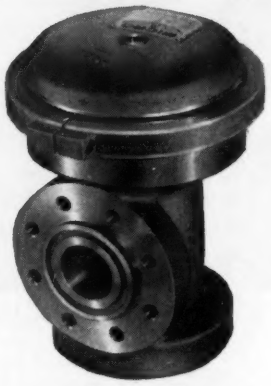
Controlled, pressurized lubrication system forces full lubricant seal around ports, and over all sealing surfaces—positively prevents sticking. Write today for full details.

HOMESTEAD VALVE MANUFACTURING COMPANY
P.O. Box 84 • Coraopolis, Pa.

For more details circle NED-648 C9 on enclosed inquiry slip

MICRO DELTA p CONTROLLER

provides back pressure control in LESS THAN A SECOND!


SERIES 4000

When overshooting the control point is objectionable or intolerable, IEC's Micro Delta p Controller will restore accurate, stable back pressure control—*within a fraction of a second!*

This compact "packaged" system—pressure sensing element and control valve—requires only *one-fourth* the space of a conventional air controller and diaphragm valve. Cost, in many cases, is less than that of a control valve alone.

The Micro Delta p's speed of response—*without hunting*—makes possible the use of multiple control points with minimum transient time. It also features square-wave pressure response and constant pressure throughout full pressure range.

Available now in five types for a wide range of pressure and flow conditions. Write for Bulletin 544 for complete details and prices.

INDUSTRIAL ENGINEERING CORPORATION
530 E. Woodbine, Louisville 8, Kentucky
Designers, engineers, and manufacturers of hydraulic and electronic test equipment, consoles, panels, etc.

For more details circle NED-649 C9 on enclosed inquiry slip

McGill grounded portables protect against shock

Provide grounded power outlet

McGILL grounded portables provide positive protection and are built to take the abuse of rough service. Their exclusive grounding design insures safety against shock that is not found in ordinary guards when insulation wears through, wires short internally or the guard contacts exposed wires. Built for 3 wire cord and 3 blade bulb. Built-in extension outlet for 2 parallel blades and a 3rd U shaped blade for ground. Impact resistant molded phenolic handles, extra heavy wire cages and famous LEVOLIER switch. Switch and cord optional.

Available from Electrical Wholesalers.
Send for McGILL Catalog No. 84.

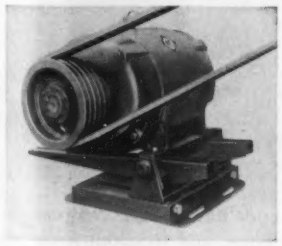
No. 5025 SRG
- UL Inspected
- Conforms to NEC
- Grounding adapted as Standard by ASA

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

For more details circle NED-650 C9 on enclosed inquiry slip

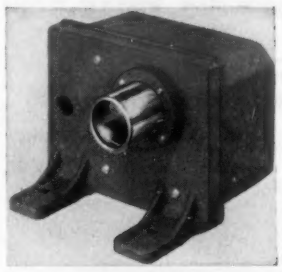
TILTING MOTOR BASE is compact reaction torque type



Automatic belted drive tension control under changing load conditions is provided by this reaction torque tilting motor base. Compact to conserve space, bases are available to accommodate all NEMA frame sizes through 505, as well as for special large frames. Base's reactive torque is directly proportional to the horsepower. Belt tension increases and decreases as the load varies. Made by **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

For more details circle NED-651 C9 on enclosed inquiry slip

TUBELESS PHOTOELECTRIC CONTROL rated 10 amp at 115 v ac



A cadmium cell sensing element with magnetic amplifier is a feature of this BM1 tubeless photoelectric control which is capable of relatively high speed operation. It requires 10 ft-c minimum light with 0.04 sec minimum dark time and 0.04 sec minimum light time. Control relay energizes when light is on sensing element. Double-pole double-throw silver cadmium oxide relay contacts are rated 10 amp at 115 v ac noninductive load. Cast aluminum housing with splash-proof gasket seal is tapped for ½-in. conduit. Lens diameter is 1½ in.; power consumption, 5 w. Made by **Autotron, Inc.**, Box 722-D, Danville, Ill.

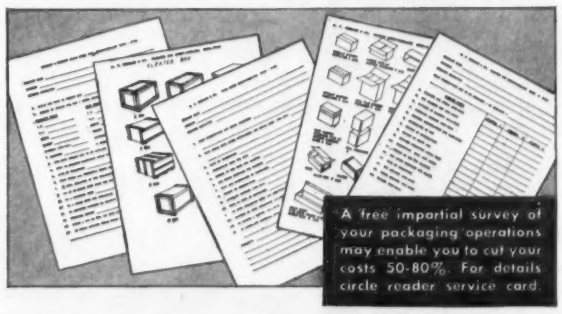
For more details circle NED-652 C9 on enclosed inquiry slip

VARIABLE TRANSFORMER controls voltage, heat, power, light

Designed with a load rating of 7.5 kva and rated at 25 amp, the Adjust-A-Volt Type T502U panel-mounted variable transformer is interchangeable with other square base units. Use is for control of alternating current voltage, heat, power, speed, and light. Input voltage is 230 v and output voltage is 0 to 270 v. Threaded steel insert mounting holes in the aluminum base and a terminal board mounted with locknuts on a permanently attached aluminum bracket are features. Ganged assemblies and motor driven units are available. Made by **Standard Electrical Products Co.**, 2240 E. Third St., Dayton 3, Ohio.

For more details circle NED-653 C9 on enclosed inquiry slip

Want to cut your packaging costs?



Today's tight profits mean that cutting costs is imperative. A re-evaluation of your packaging methods, for example, might show that through the use of A. J. Gerrard's modern strapping techniques, you can eliminate costly carton set-up time; or, that you can save as much as 50 to 80% on strapping materials with our new *oval* strapping. In any case, by reviewing your present methods with an A. J. Gerrard packaging specialist, he'll undoubtedly help you uncover *many* avenues for reducing costs.

A personalized survey of your operation is available free and with no obligation . . . simply circle the reader service card.

FREE NEW CATALOG

A.J. GERRARD AND COMPANY
1954 Hawthorne Boulevard • Melrose Park, Illinois

For more details circle NED-654 C9 on enclosed inquiry slip

CUT SCRAP HANDLING COSTS

with EC&M Lightweight MAGNETS

• For fast-moving boom or crawler cranes, these EC&M Magnets (wound with aluminum strap conductor) give high lifts on light (wind-blown) scrap. They keep balers at top output ...place bales into cars...and handle heavier grades of scrap effectively.

Write for BULLETIN 1300

THE ELECTRIC CONTROLLER & MFG. CO.
A DIVISION OF THE SQUARE D COMPANY
CLEVELAND 28 • OHIO

7932-R

For more details circle NED-655 C9 on enclosed inquiry slip

8313-MR

5 WAYS TO CUT SOLID TIRE REPLACEMENT COSTS...

and increase lift truck performance

1 GET THE RIGHT TIRE FOR THE JOB
For efficiency and economy, always specify solids according to vehicle, loads and normal operating conditions.

2 AVOID STANDING LOADS AND OVERLOADS
Flat spots cause severe vibration and separation of rubber tire from rim. Overloads result in rapid wear.

3 KEEP FLOORS CLEAR OF DEBRIS
Clean traffic lanes mean savings . . . cuts and bruises from scrap are a major cause of premature tire failure.

4 INSPECT TIRES DAILY
Frequent inspection and prompt removal of imbedded objects costs less than frequent tire replacement.

5 SWITCH TO MONARCH SOLIDS
Made from Compound T-48C, the toughest *natural rubber* stock developed to date, MONARCH industrial solids give superior performance . . . more ton-miles per dollar invested.

THE MONARCH RUBBER COMPANY
260 LINCOLN PARK
HARTVILLE, OHIO

• 7-255 General Motors Bldg., Detroit
• 2353 N. California Ave., Chicago
• Warehouse: Reno, Nevada

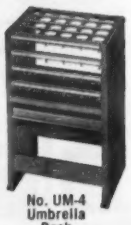
For more details circle NED-656 C9 on enclosed inquiry slip

The OFFICE VALET® Lockerette

Combines the best features of both lockers and coat racks.

Wraps are exposed to air and light Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects. Improves health and morale—lower absenteeism.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 feet; the No. 9-18 (illustrated) accommodates 18 in 9 feet.



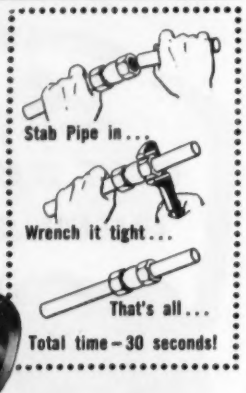
No. UM-4 Umbrella Rack

WRITE FOR BULLETIN LO- 8

VOGEL-PETERSON CO. 1121 West 37th St. Chicago 9, Ill.

▲ For more details circle NED-657 C9 on enclosed inquiry slip ▲

30 seconds to solve tough piping problems



Dresser Coupling Style 65

Name your piping problem: misalignment, vibration stresses, cramped working quarters, or costs of future maintenance and takedown. Dresser Style 65 Couplings solve them *all*. Installed with a simple hand wrench, it takes you 30 seconds to make a permanent, tight joint! Water, oil or gas lines in diameters up to 2-inches . . . plain end pipe (no threading problems). The non-rigid Dresser® Coupling compensates for pipe misalignment, absorbs stresses and vibrations. Booklet No. 531 further shows many typical cases where Dresser Couplings solved tough piping problems.

Dresser Manufacturing Division, Bradford, Pennsylvania

DRESSER MANUFACTURING DIVISION

▲ For more details circle NED-658 C9 on enclosed inquiry slip ▲

Why Skinner V5 solenoid valves are solving so many control problems

Advantages: engineered to highest UL standards; stainless steel body and internal parts; mount in any position; can be cleaned without removal from line; 100% tested for leakage prior to shipment.

Application: control of coolant at each operating station of a Leland-Gifford nine-unit hydraulic machine used to drill crankshafts. V5 valve design permits automatic control of coolant during drilling cycle.

2- and 3-way construction: pressure ratings: to 3000 psi; orifices: 1/32" to 3/8" NPT ports: 1/8", 1/4" and 3/8" normally open, normally closed, directional control, multi-directional, quick exhaust.

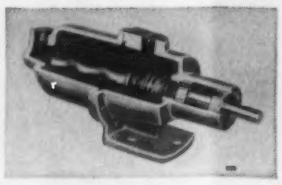
Contact a Skinner Representative listed in Yellow Pages or write us at Dept. 433

SKINNER ELECTRIC VALVE DIVISION NEW BRITAIN CONNECTICUT 105 EDGEWOOD AVENUE

THE CREST OF QUALITY

▲ For more details circle NED-659 C9 on enclosed inquiry slip ▲

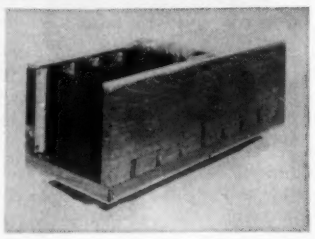
UTILITY PUMPS
self-priming up to 25 ft of suction



Only one moving part, a stainless steel or Bakelite rotor turning in a tough rubber stator, provides the positive displacement in this line of utility pumps. They are self-priming up to 25 ft of suction lift, and have high reserve pressure, low internal turbulence, and freedom from air locking. The small, lightweight units require no lubrication and are furnished separately, or close coupled, or mounted with electric motor or gasoline engine drives. Cast iron, cast aluminum, stainless steel, and molded Bakelite bodies are available with oil-resistant stators. Capacities range to 50 gpm and pressures to 150 psi. Pumps are suited for transferring, circulating, metering, filling, draining, and spraying of many heavy and light liquids. Made by **Continental Pump Co.**, 1027 S. Vandeventer Ave., St. Louis 10, Mo.

▲ For more details circle NED-660 C9 on enclosed inquiry slip ▲

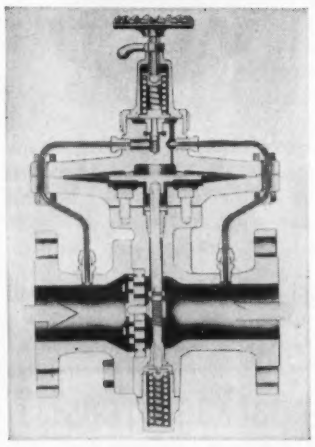
INDUSTRIAL SHOE CLEANER
removes dirt, lint from all of shoe



Wood box with a network of nylon strip brushes arranged to remove dirt and lint from every part of the shoe comprises an industrial shoe cleaning unit. Brush strips are anchored by magnesium channels that allow easy brush replacement. Unit is open at the entry end and closed at the back where a vacuum attachment removes loose dirt. A large man's shoe or a small woman's shoe can be cleaned without removing the shoe or readjustment. It will not tear stockings. Made by **Stanley Home Products, Inc.**, 118 Pleasant St., Easthampton, Mass.

▲ For more details circle NED-661 C9 on enclosed inquiry slip ▲

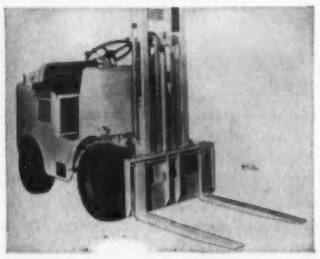
PRESSURE REDUCING VALVE
now made in 2½ and 3-in. sizes



Incorporating a sliding gate and plate main valve, this pilot-operated pressure reducing valve features integral pilot with filter screen, clog-resistant passages, and ball bearing adjusting screw with handwheel. It provides accurate regulation and tight shut off. Cast iron flanged 2½ and 3-in. sizes are made for 125 or 250-psi ASA connections, and they are suited for pressures to 250 psi and temperatures to 406° F. Made by **OPW Corp.**, Jordan Industrial Sales Div., 6013 Wiehe Rd., Cincinnati 13, Ohio.

▲ For more details circle NED-662 C9 on enclosed inquiry slip ▲

DIESEL FORK LIFT TRUCK
in 3000 to 12,000-lb capacities



Devoid of electrical components, this Safeguard diesel fork lift truck provides safe operation in hazardous areas and industries. Lifting capacities range from 3000 to 12,000 lb in nine different models. Truck features a hydraulic starter; mechanically-operated fuel, temperature, and oil pressure gages; and a mechanical warning device. A low volatile fuel is used. Starter is actuated by fluid released by pressure accumulator charged by the truck's hydraulic system or manually, if necessary. A fuel flow control lever on the cowl is used with the starter actuator to start the lift truck. It shuts off fuel when engine is to be stopped. Made by **Towmotor Corp.**, 1226 E. 152nd St., Cleveland 10, Ohio.

▲ For more details circle NED-663 C9 on enclosed inquiry slip ▲

used by one company . . . on one type application

enough NYLAFLOW® tubing to lasso the highest flying earth satellite!

So what? Just this! Any company that uses 10 million feet of NYLAFLOW flexible tubing must be well satisfied with the results. And it certainly proves a point we've been making. For "down-to-earth" quality—uniformity you can depend upon—NYLAFLOW pressure tubing gives you the most value for your investment.

Whatever your problem—conveying air, gases or liquids—the characteristics of this tough, flexible polyamide tubing can more than justify its use.

- High pressure rating at low cost
- High resistance to flex and vibrational fatigue
- Mechanically strong—resists abrasion and impact
- Corrosion and chemical resistance
- Serves wide temperature range: low as −100°F, up to +225°F
- Is used with standard flare or flareless fittings
- Light weight (1/7 that of copper)
- Easy to work with . . . easy to install

NYLAFLOW pressure tubing is available in 1000 psi and 2500 psi short time burst strengths. Every lot is pretested for strength, resiliency, impact and cold brittleness. It is 100% proof pressure tested.

NEW LITERATURE now available. Write today for more information on characteristics, properties and uses.

THE POLYMER CORPORATION OF PENNA.
a subsidiary of The Polymer Corporation
Reading, Pennsylvania
Export: Polypenco, Inc., Reading, Pa., U.S.A.

POLYPENCO

▲ For more details circle NED-664 C9 on enclosed inquiry slip ▲

Here's the most

VERSATILE CRANE *you can buy!*

THIS BROCHURE describes the full line, complete with all specifications.

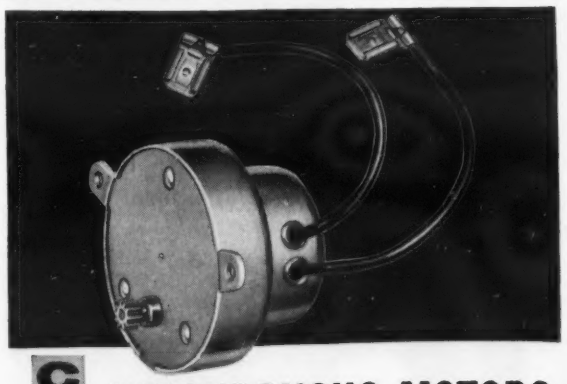
Available in seven models, with capacities from one-half to three tons. Every Tubarcrane has a three-position built-in extension boom—no extras to buy! Pumping effort is easily adjustable. Tilt-back mast provides more area for lifting bulky loads. Write for literature today!

Jobber Territories Available
Also request literature on Tubar Hand Trucks, Platform Trucks, Tubarlifts

U-159-45

Tubar ASSURES QUALITY
DUREN, INC. DENNISON, OHIO
LIFTS • DUMPERS • CRANES

▲ For more details circle NED-665 C9 on enclosed inquiry slip ▲



CC SYNCHRONOUS MOTORS

torque output *high* — dollar output *low*

CC synchronous motors are of the *permanent magnet* type, making them more reliable at higher torques — and inherent energy in the rotor results in more power than conventional clock motors. And its a *high production* motor designed to satisfy the cost-conscious volume user. Typical uses for this compact yet potent motor include timing devices, advertising displays and vending machines.

For more complete information, write for bulletin SL-15

For long-life applications, an exclusive reservoir lubricating system is available. The rotor shaft is continuously bathed in oil, resulting in long, dependable performance.

CONTROLS COMPANY OF AMERICA
9577 Soreng Ave., Schiller Park, Illinois
COOKSVILLE, Ontario • NIJMEGEN, Holland

Controls That Make Modern Living Possible

▲ For more details circle NED-666 C9 on enclosed inquiry slip ▲

ClarkeAmatic

BATTERY POWERED FLOOR MAINTAINER
cuts labor costs to 12¢ per hour

This Clarke self-propelled floor maintainer cleans floors fast — scrubs, picks up and dries all in one easy, automatic operation, covering 12,000 sq. ft. per hour, slashing costs to only 1/12 of the estimated national average wage rate. You get clean floors for dimes instead of dollars.

Clarke FLOOR MACHINE CO.
Formerly Clarke Sanding Machine Company

223 E. Clay Ave., Muskegon, Mich.
Authorized Sales Representatives and Service Branches in Principal Cities.
DISTRIBUTED IN CANADA: G. H. Wood & Co., Ltd., P.O. Box 34, Toronto 14, Ont.

▲ For more details circle NED-667 C9 on enclosed inquiry slip ▲

WRITE NOW FOR THIS

FREE CATALOG

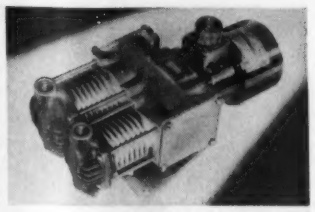
ON WORK HOLDING TOOLS FOR PRODUCTION, TOOLING, MAINTENANCE

Drill press vises, angle vises, swivel machine vises, rotary tables, lathe milling attachments, production vises, heavy duty angle vises, and adjustable angle plates are illustrated and fully described in the New Palmgren Catalog. This is the only complete line of work holding devices available anywhere. Designed for production, tooling, and maintenance work, there are 68 different models and types to choose from. Vise jaw sizes are from 1½" to 8". Ask for your copy of this FREE Catalog No. 205 today. The complete line with details and prices are shown.

PALMGREN PRODUCTS
by CHICAGO TOOL AND ENGINEERING CO.
8378 SOUTH CHICAGO AVE. • CHICAGO 17, ILL.

▲ For more details circle NED-668 C9 on enclosed inquiry slip ▲

MOTOR DRIVEN AIR PUMP
operates in −65 to 200° F range

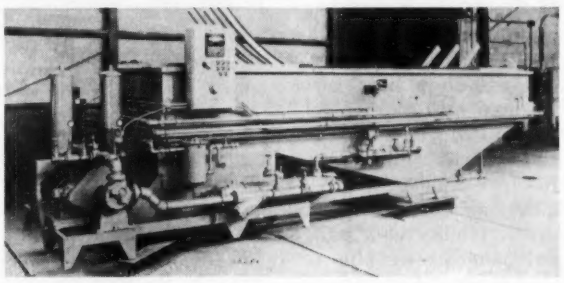


This two-stage motor-driven air pump for use in airborne radar systems, ground support, and electronic test equipment has a continuous duty cycle and 1000-hr minimum life. Unit operates in −65 to 200° F. Capacity is 0.025 ppm at 30 psi absolute outlet with 7 in. of mercury absolute inlet pressure. For vacuum, pump will reduce 800 cu in. volume from 29.92 to 0.5 in. of mercury absolute in 2 min with outlet discharging to sea level. The ¼-hp 400-cycle three-phase 208-v motor is fully enclosed and fan cooled. Unit weighs only 8.75 lb. Made by **Great Lakes Mfg. Corp.**, 4223 Monticello Blvd., Cleveland 21, Ohio.

▲ For more details circle NED-670 C9 on enclosed inquiry slip ▲

HOT PAINT DIP PROCESS
both article and paint are heated prior to conveyorized dipping

Savings in paint usage, floor space, and initial cost can be realized with use of the Harding hot dip paint process. It consists of preheating the article to be



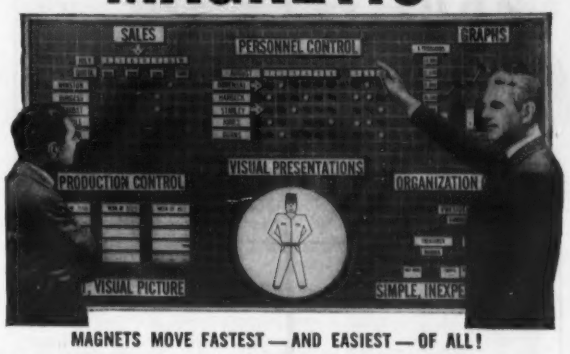
painted and dipping it into paint, enamels, certain lacquers, or other coatings and rustproofing compounds heated to 160° F.

Leaving the tank the trichlorethylene solvent, which makes the process fireproof and thus safe, is instantly evaporated from the paint by the heat radiating from the article. Quick drying, uniform thickness, and a drip-free coating are the result. Film thickness can be controlled from less than ½ mil to 2 or more mils in one coat.

Dip tank consists of a lower section holding the coating material. Its dimensions are suited to the work to be processed. Thermostatically controlled steam coils or electric heating elements are incorporated. Upper section functions as a drying chamber and solvent vapor condenser. It is surrounded by a jacket through which a cooling liquid is circulated. Recovered solvent can be re-used. Process and equipment are suited to conveyorization. Available from **David-Ludwig Co.**, 14290 Goddard Ave., Detroit 12, Mich.

▲ For more details circle NED-671 C9 on enclosed inquiry slip ▲

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE3 **FREE** ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
442 Mosel Avenue, Staten Island 4, New York

▲ For more details circle NED-672 C9 on enclosed inquiry slip ▲

NEW!

MANHEIM VARIABLE SPEED BELT

Now outdates wood block and variable speed v-belts

Replaces Enclosed Drive Belts without Disassembly

MVS Belt sets a new standard in V-to-V drives because it is adjustable to any length and is installed in minutes instead of hours. Its patented design eliminates drive disassembly. MVS Belt is placed around the sheaves and coupled with T-screws. Uniform thickness and width guarantee constant power delivery at all speeds with no cross-sectional distortion. Available in 26 widths from 1½" thru 5".

- REDUCES DOWN-TIME FROM HOURS TO MINUTES
- ADJUSTABLE TO ANY LENGTH
- EXACT SPEED CONTROL
- UP TO 90% LESS VIBRATION

Write Today for Complete Information.

MVS

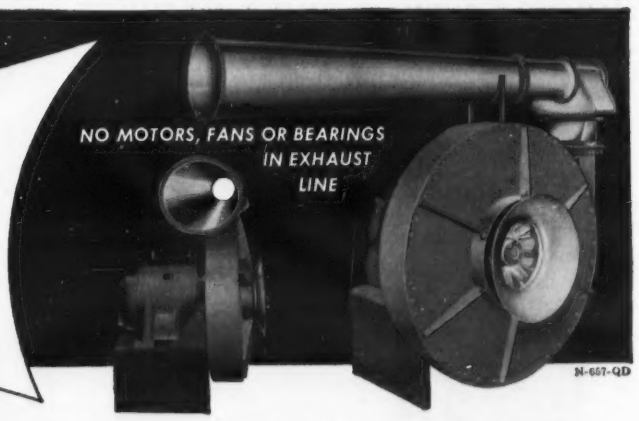
MANHEIM
MANUFACTURING & BELTING COMPANY
Manheim 4, Penna.

©M. M. & B. Co. 1958

▲ For more details circle NED-673 C9 on enclosed inquiry slip ▲

Now . . .

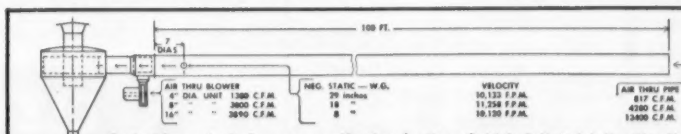
you can reduce bulk materials handling costs with *Quickdraft* high pressure exhausters



FOR MOVING:
Cement, Sand, Iron Oxide, Wheat, Corn, Salt, Limestone, Castor Beans, Knots, Blocks, Paper, Wool, Cotton, Oats, Rags, Rubber, Vegetables, Coal (Powdered), Shavings, Cork, Sawdust . . . **and any other materials that can be moved by air!**

IMPORTANT NOTICE
For resisting abrasive action, Quickdraft units can be rubber lined. For withstanding corrosive gases, all Quickdraft units are available in standard acid resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (PVC), and with plastic and Fiberglas coatings.

Time and maintenance savings usually pay for Quickdraft high-pressure exhausters in 6 to 18 months on materials handling jobs. Because material does not pass through blower, maintenance is negligible. Downtime for cleaning and replacing fans, motors and bearings is eliminated. Quickdraft units are also ideal for exhausting paint spray, abrasives, corrosive gases, noxious fumes and high temperatures. For Quickdraft engineering data on materials handling, industrial exhausting, heating plant venting, write today!



Patent Nos. 2,722,372 and 2,855,874. Other Patents Pending.

Typical Example: Performance specifications for three Quickdraft Materials Handling Units using same size blower, pulling through 100 ft. of pipe the same diameter as Quickdraft. (Models range from 4 in. to 30 in. diameter—with 1/6 to 600 H.P. motors—with negative static pressures from ¼ in. to 60 in. W.G.)

Quickdraft corporation
P.O. Box 87-L • Canton 1, Ohio

Well known for power draft units for all types of heating plants.

▲ For more details circle NED-669 C9 on enclosed inquiry slip ▲

AMEs

Masters of Measurement

PORTA-CHECK®
A transistorized comparator for fast, accurate measurement to .00001".

200 SERIES
One of four sizes; made to AGD specifications.

For more than half a century, Ames measuring instruments have been regarded as the finest available. Wherever precision is *really* important . . . you'll find Ames indicators, gauges, micrometers and comparators on the job.

Representatives in Principal Cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.
Canadian Office — B. C. Ames Co., 45 Oriole Parkway, Toronto
MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES
For more details circle NED-675 C9 on enclosed inquiry slip

FICTION and FACT

FICTION: Conversion From Dry Booth to RP Paint Arrestor Equipped Paint Spray Booths is Complicated.

FACT: R P Paint Arrestors are Basically Air Filters and are as Easy as Filters to install.

Photo Courtesy Consolidated Freightways, Chicago

RP® PAINT ARRESTORS

R P Paint Arrestors require no special construction and can be installed in any dry-type spray booth...quickly and simply. They can be mounted in vertical, horizontal or "V" banks... and require no plumbing, pumps nor special wiring. Maintenance costs are low, too, involving only the replacement of economical Paint Arrestors. To reduce down-time, save floor space, increase paint spray booth efficiency, write for complete information on R P Paint Arrestors.

Products of Research RP
RESEARCH PRODUCTS *Corporation*
Dept. 32 Madison 10, Wis.

For more details circle NED-676 C9 on enclosed inquiry slip

These two new Airetool angle head pneumatic drills make drilling in tight quarters an easy job. Model 400-AA has all-angle head adjustable through 360°. Model 400-RA has fixed right angle head. For full details, write for Bulletin 67.

Representatives in principal cities of U.S.A., Canada, Mexico, Puerto Rico, South America, England, Europe, Italy, Japan, Hawaii.
EUROPEAN PLANT: Viaardingen, The Netherlands
CANADIAN PLANT: 37 Spalding Drive, Brantford, Ontario

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

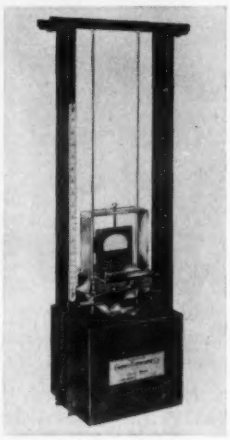
For more details circle NED-677 C9 on enclosed inquiry slip

ROLL-TYPE CONTROL BOARD
continuous sleeve moves across grid

Entries are made directly on the rotating, transparent plastic sleeve of this Rol-a-chart with a marking pencil and erased with an ordinary cloth. Typing, tabs, or cards are unnecessary to schedule jobs, people, equipment, or machines. The continuous sleeve moves across a fixed grid designed so that any time interval from minutes to months can be employed. Chart provides 8 sq ft of scheduling space in only 4 sq ft of wall space. Time is visualized by moving sleeve forward or backward to check any stage of scheduling, past or future. Chart is equipped with wall hangers, folding easel, and carrying handle. Red and black marking pencils are furnished. Price is $47.50. Made by **Conley, Baltzer & Steward,** 494 Jefferson St., San Francisco 9, Calif.

For more details circle NED-678 C9 on enclosed inquiry slip

PHYSICAL SHOCK TESTER
for electric parts and instruments



Moderate shock experienced by electric and electronic components and instruments when dropped on a hard surface or bounced in a moving vehicle is reproduced by this physical shock tester. Built according to JAN-S-44 and MIL-STD-202A standards, it determines the suitability of a part or instrument for mobile or field equipment. Apparatus consists of a cast iron base to which channels are bolted to support a movable carriage. Two springs on the under side of the carriage transmit the shock to the test sample when it hits a stationary anvil. Capacity is 0 to 4 lb and 2½ and 3½-in. diameter instruments. Other mounting accessories are available. Made by **Gaynes Engineering Co.,** 1642 W. Fulton St., Chicago 12, Ill.

For more details circle NED-679 C9 on enclosed inquiry slip

Engineered Ceramics

Globe-Union Inc., Centralab Div.—Written to assist development engineers, illustrated catalog describes mechanical, electrical, and environmental characteristics of engineered ceramics. Advantages and disadvantages of various fabricating techniques, metalizing of ceramics, and utilization of standard extruded shapes are among subjects covered.

For more details circle NED-680 C9 on enclosed inquiry slip

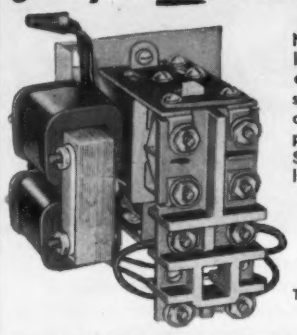
HENRY & WRIGHT DIEING MACHINES

Send today for this new, information-packed catalog on Henry & Wright Double Crank Dieing Machines. See how new H&W progressive dieing machines meet your requirements of reduced operating costs, faster production, less downtime and longer die life. Ask for this handy blanking pressure chart, too, without obligation of course. HPM

THE HYDRAULIC PRESS MFG. COMPANY
A Division of Koehring Co., Mount Gilead, Ohio, U.S.A. H911

For more details circle NED-681 C9 on enclosed inquiry slip

WARRICK Floatless Electrode Type
LIQUID LEVEL CONTROLS . . .
give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

YOU CAN USE OUR CONTROLS FOR:
- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

Special controls to custom requirements

CHARLES F. WARRICK CO.
1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

For more details circle NED-682 C9 on enclosed inquiry slip

Look to WOOD for ALUMINUM shovels and scoops

LIGHT! Wood's Zephyr Weight aluminum shovels and scoops save up to one ton of lifting in seven. **CORROSION RESISTANT!** Withstand steam, most chemicals. Sanitary models for food processors. **NON-SPARKING!** Safe where dust, gas or volatile liquids make fire or explosion hazards. **20 STYLES** to fit your job needs.

Made by the makers of MOLY brand mo-lyb-den-um alloy and JET LITE hi-carbon steel industrial shovels and scoops.

THE WOOD SHOVEL & TOOL CO.
Piqua, Ohio

For more details circle NED-683 C9 on enclosed inquiry slip

New Bulletin on WORM GEARING
for designers and engineers

Yours for the asking Bulletin 145

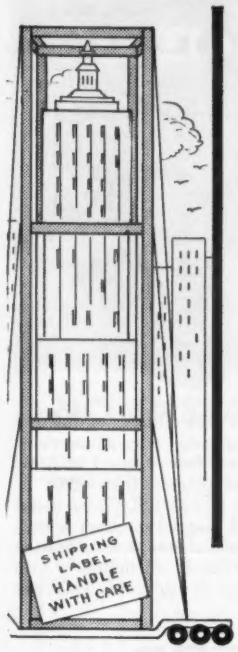
Bring your file up to date with this new, complete bulletin on Cleveland worm gear drives. Shows all standard units, with engineering data. Also tells how to plan and order special designs.

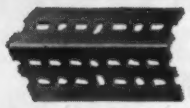
THE CLEVELAND WORM & GEAR COMPANY
3283 East 80th Street • Cleveland 4, Ohio
Sales Representatives in all major industrial markets

CLEVELAND Worm Gear *Speed Reducers*

For more details circle NED-684 C9 on enclosed inquiry slip

YOU CAN DO ANYTHING ...WITH FLEXANGLE

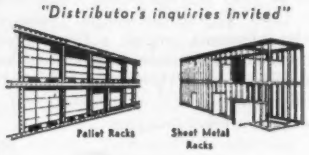




So you're NOT in the moving business. You may still have a towering problem . . . how to build storage racks or platforms from a material that won't leave any waste. You don't want to drill or weld or paint. You have unskilled labor to build it.

FlexAngle—the universal framing material—is the answer. Just lay out, measure, cut and bolt on the spot. No expensive accessories or tools needed.

"Distributor's inquiries Invited"



FLEXANGLE CORPORATION
3762 OAKWOOD AVE. P. O. BOX 418 YOUNGSTOWN 1, OHIO

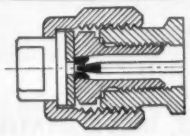
▲ For more details circle **NED-685 C9** on enclosed inquiry slip ▲

for hydraulic, high pressure spray coating and painting

with
TUNGSTEN CARBIDE valve seat and needle
•
STAINLESS STEEL body and cap
•
TEFLON packings

for efficient, trouble-free performance

Here's the gun designed in detail for better, trouble-free performance. Needle cleans seat orifice automatically. For use at pressures from 400 to 2,000 psi. Complete choice of interchangeable orifice tips in all spray patterns, capacities and materials.



SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

FOR INFORMATION WRITE FOR BULLETIN 95

▲ For more details circle **NED-686 C9** on enclosed inquiry slip ▲

PORTABLE AIR COMPRESSOR rated at 120 psi and 7.5 cfm

Continuous duty Model 4S-120 air compressor is a 50-lb unit for use as an air source for individual machines and a portable air supply for nailers, banders, calking guns, and greasing equipment. It is rated 120 psi and has a displacement of 7.5 cfm. Size is 18 x 7½ x 10¾ in. Fan-cooled unit has two honed cylinders, an easily removed valve cartridge, oil dip stick, and an oil drain. Power is furnished by a 115/230-v, single-phase, ¾ hp G-E motor. Made by **Decora Mfg. Co.**, Dept. NED, 1516 Park Ave., Emeryville 8, Calif.

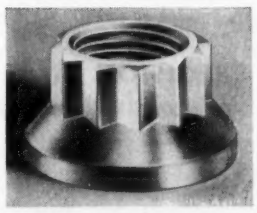
▲ For more details circle **NED-688 C9** on enclosed inquiry slip ▲

ILLUMINATED PUSHBUTTONS sealed to exclude oil and coolants

Completely sealed to exclude oil and coolants, the Bulletin 800T heavy duty control unit combines a pushbutton and pilot light in one unit. It has double break, normally-open or normally-closed silver alloy contacts. Pilot lamp can be wired to go on or off when button is pressed, or it can be energized from a separate source. This same unit can be wired as a push-to-test pilot light. Step-down transformer is built into each unit to supply 6-v pilot lamps. Pushbutton units fit standard oiltight enclosures. Colored lenses and guard collars to protect the button are available. Made by **Allen-Bradley Co.**, 136 W. Greenfield Ave., Milwaukee 4, Wis.

▲ For more details circle **NED-689 C9** on enclosed inquiry slip ▲

FEATHERWEIGHT LOCKNUT for 220,000-psi tensile bolts



FN-22 Series featherweight locknut for 220,000-psi tensile applications weighs only 60 per cent of comparable aircraft self-locking nuts. Designed for aircraft, missile, and related uses, locknuts feature a 0.003-in. tolerance on squareness between the nut bearing face and the threads for maximum fatigue life. The cadmium-plated alloy steel fastener withstands up to 550° F and meets MIL-N-25027 specifications with or without molybdenum disulfide protective coating. Prevailing torque type locking is employed on ¼ to ½-in. sizes. Made by **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

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in a matter of minutes you can

REPAIR DAMAGED GALVANIZED SURFACES

with AMCO galvanizing compound

AMCO No. 321 (Powder) flows freely, covers completely, will not damage area around the repair, makes a perfect bond with the base metal and surrounding zinc coating. Comes in 1, 10 and 100 lb. containers.

AMCO No. 322 (Stick) is the same as No. 321 but in stick form for convenience in repairing areas not easily accessible. Ideal for overhead repairs, wire cables, etc. Three sticks per pound.

AMERICAN SOLDER & FLUX CO.
19th and Willard Streets, Philadelphia 40, Pa.
FLUX MANUFACTURERS SINCE 1910

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BUY CHART *for Men of Vision*

General NOW OFFERS POPULAR PRICE QUALITY-ENGINEERED FLOOR MACHINES!

BE SURE TO SEE GENERAL BEFORE YOU AUTO-MATE YOUR FLOOR MAINTENANCE!

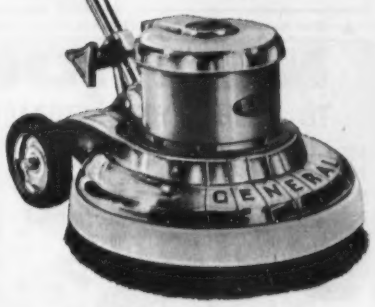
GENERAL KC Extra Heavy Duty Machines with all these deluxe quality PLUS features:

1. FULLY ADJUSTABLE HANDLE.
2. BIG 6" SEMI-PNEUMATIC WHEELS.
3. LUXURIOUS WHITE RUBBER WRAP-A-ROUND BUMPER.
4. DUAL AUTO-MATE SAFETY SWITCH.
5. NON-MARKIT GREY RUBBER CORD.
6. UNSURPASSED FUNCTIONAL DESIGN.
7. HEAVY DUTY CAPACITOR-START TYPE MOTOR.

GENERAL KL Dyna-Craft Mid-weight Machine.

13" diameter operating brush spread. *Portable!*

Full range of sizes — from 13" to 23" diameter operating brush spread.



GENERAL Heavy Duty Wet and Dry E-CON-O-VAC Commercial Vacuum Cleaners.

GENERAL TWIN BRUSH MACHINES
T-16B—for Motels, Stores, etc.
Twin-12A—for Home use.

BEFORE YOU BUY, SEE GENERAL! There's a BIG difference in floor maintenance equipment!

General FLOORCRAFT, INC.
3630-50 Rombouts Ave., Bronx 66, N.Y. Established 1930
World's Most Complete Line of Industrial and Household Floor Maintenance Machines and Vacuums
All Sizes for All Types of Floors — Made by Floor Machine Specialists

Generals are Feature-Filled! MAIL COUPON for complete details

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City_____ State_____
My Name_____ Title_____

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NEW TRANSISTORIZED RELAY COMBINES FINE-SENSITIVITY WITH HEAVY-DUTY CONSTRUCTION

Machine designers and panelbuilders have found this new Cutler-Hammer Transistorized Relay to be particularly useful whenever their control problems call for an A-c relay which will respond to either an A-c or D-c signal between .0028 and .025 amperes. The heart of this compact relay is the plug-in type signal-amplifying module which contains all the electronic parts. This tough module is practically indestructible, and the plug-in design simplifies maintenance . . . cuts downtime to a minimum. The Bulletin 13535 transistorized relay requires no warm-up time and is exceptionally quick in operation. 600 volt model offers a wide selection of contact arrangements . . . rated 15 amperes. 110 volt model rated 10 amperes. Prices unusually low. Cutler-Hammer also offers conductive liquid level probes and photocell units for use with these relays.

Design Features: Two pole, double throw plug-in relay with dust-proof cover • Tough plug-in signal—amplifying module safeguards all electronic parts • Quick response • No warm-up required • Sensitive to low powered signals • Convenient terminal board connections • Available in NEMA 1 enclosure or open type

CUTLER-HAMMER CONTROL C-H

For complete information write for Bulletin 13535-E-251.

Cutler-Hammer Inc.
Milwaukee 1, Wisconsin

Cutler-Hammer Inc., Milwaukee, Wis. • *Division:* **Airborne Instruments Laboratory.** • *Subsidiary:* **Cutler-Hammer International, C. A.**
Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.; Intercontinental Electronics Corporation.

▲ For more details circle **NED-687 C9** on enclosed inquiry slip ▲

SPITFIRE Grinding Discs

GREATER SAFETY MARGIN! Revolutionary new Aluminum Oxide Discs feature built-in barrier protection plus fully reinforced edges to eliminate limpness and excessive grit loss. Spitfire Discs provide 25% greater safety margin on "snagging" and "hang up" operations.

FASTER, COOLER CUTTING! Sharp, uniform cutting action makes full use of disc surface . . . speeds up grinding and sanding even under toughest conditions. Cooler running to add extra life, longer production performance.

A TYPE AND SIZE FOR EVERY JOB! Available in "Special," "Standard" and "Heavy Duty" discs for everything from light gauge metal sanding and polishing to high speed finishing operations. Grit sizes 16 through 180. Disc diameters include 6", 7", 8" and 9½" with ½" and ⅞" arbor holes.

Write for "Spitfire" folder!

JEWEL BRAND

COATED ABRASIVES

Belts • Rolls • Sheets • Discs • Specialties

ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

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MAYLINE

STANDARD DRAWING TABLE

for the Very Best in Drafting Furniture Specify MAYLINE

Best for choice of tables. Seven styles in all. Ask your dealer for complete information and prices, or write directly to factory.

MASTER DRAWING TABLE

V-MODEL TABLE WITH FOOTREST

Symbol of MAYLINE *Superiority*

MAYLINE CO.
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MAYLINE

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NEW IDEAS

TO DOUBLE YOUR STORAGE CAPACITY

The FRICK-GALLAGHER MFG. CO.
112 S. MICHIGAN AVE., WELLSTON, OHIO J-3A
BONDERIZED STEEL EQUIPMENT FOR EVERY STORAGE NEED

▲ For more details circle **NED-695 C9** on enclosed inquiry slip ▲

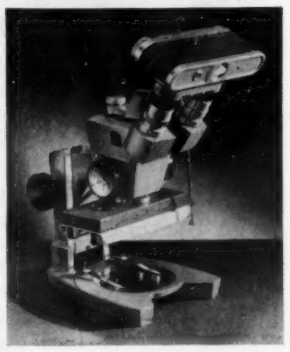
CANTILEVER JIB CRANES in capacities to 3 tons

Maximum hoist travel where minimum overhead room is available is provided by Model WBFC cantilever jib crane which is designed without tie rods or other brac-

ing. Units are mounted on existing building columns, or are furnished with supporting structures. Capacities to 3 tons and spans to 20 ft are available. Crane rotates 180 degrees. Made by **All-State Engineering Co.**, 7075 N. 76th St., Milwaukee 8, Wis.

▲ For more details circle **NED-696 C9** on enclosed inquiry slip ▲

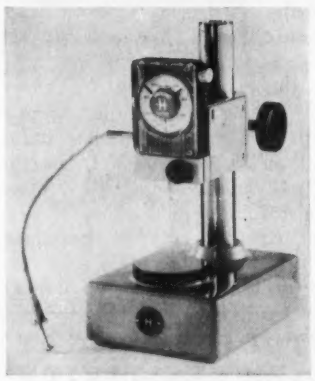
STEREO CAMERA used with stereoscopic microscope



A 35-mm Graflex Stereocamera and an adapter with a prism compensating system comprise this photo unit for use with Cycloptic stereoscopic microscopes. Adapter attaches to the microscope stand and allows camera to swing into and out of position over the eyepieces. No matter what gross specimen is used, the camera shoots the sharp, three-dimensional image exactly as it is seen through the microscope. Camera accepts standard 35-mm film, either black-and-white or color. Made by **American Optical Co.**, Instrument Div., Sugar & Eggert Roads, Buffalo 15, N. Y.

▲ For more details circle **NED-697 C9** on enclosed inquiry slip ▲

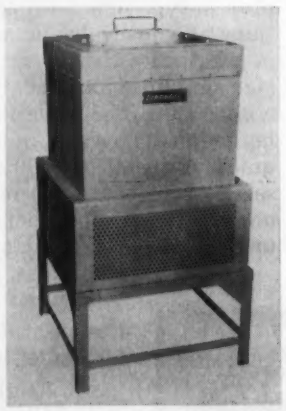
PRECISION DIAL COMPARATOR reads directly to 0.00005 in.



A range of 0.004 in., direct reading to 0.00005 in., a jeweled and shock - resistant mechanism, dual gaging contact pressure, and fine adjustment on both stand and gage are features of this precision dial comparator. Stand has a vertical range of 4 in. with overall height of 8.5 in. The 2-in. diameter steel anvil is hardened and lapped. Packaged in a wooden case, stand and gage are priced at $110. Made by **Hamilton Watch Co.**, Lancaste, Pa.

▲ For more details circle **NED-698 C9** on enclosed inquiry slip ▲

POT & CRUCIBLE FURNACE maintains heats up to 2000° F



Versatility as a pot, crucible, and retort furnace makes the PC-72 pot furnace suitable for various laboratory and pilot plant operations. It will operate at heavy and continuous duty at all heat levels up to 2000° F. Furnace chamber measures 8 in. in diameter by 9 in. deep, the alloy pot dimensions are 6 in. ID by 10 in. deep, and the atmosphere retort has a 6 in. ID by 8¼ in. deep working area. Transformer, heating element, contactor, thermocouple, and chamber cover are standard. Made by **Lindberg Engineering Co.**, Pilot Plant Equipment Div., 2444 W. Hubbard St., Chicago 12, Ill.

▲ For more details circle **NED-699 C9** on enclosed inquiry slip ▲

NEW METAL EDGE FILTER CATALOG...

For filtration from 25 microns up with almost no maintenance at all, you can select Purolator metal edge filters made of all common metals and alloys with flows from 1 to 1000 GPM. They will withstand temperature extremes from −260° F. to 1200° F. and differential pressure to 125 PSI. Their metal edge elements provide a thin-walled, rugged medium with a lower initial pressure drop, higher flow and complete utilization of surface area. They can be cleaned almost indefinitely — with knife blades (manual or motorized), or by backwashing. Write for *free* catalog today to:

PUROLATOR PRODUCTS, INC.
RAHWAY, NEW JERSEY AND TORONTO, CANADA

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SOLVE ROTARY MOTION PROBLEMS

CARTER ROTARY ACTUATOR

- SAFE, LEAKPROOF PERFORMANCE
- BUILT IN CUSHIONS
- OIL, AIR, WATER OR GAS
- Transfer Mechanisms
- Indexing
- Positioning
- Valve Operation
- Cam Actions

SEND FOR NEW BULLETIN RA-500 Complete Details and specifications. All essential design data. Send today!

CARTER CONTROLS, INCORPORATED
2876 Bernice Road, Lansing, Ill.
Phones: Lansing—GRanite 4-3305 • Chicago—BAyport 1-7186

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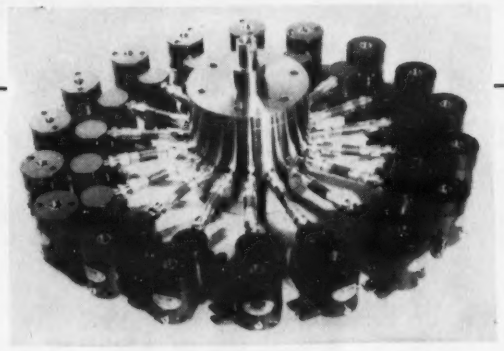

REDMER

AIR CHUCK and ROTARY VALVE for FAST, MULTIPLE PRODUCTION

Redmer #000 Air Chuck mounts on all standard makes of rotary tables 16" in diameter or over. Can be used on tables 24" or over with standard REDMER chucks for greater holding power. Safely holds round, square or hex pieces. Using standard B & S Type collets eliminates fixture making.

Rotary valve available with required number of outlets and necessary off and on positions. Manufactured to specifications only as to diameter, height required and number of outlets.

Send for complete details, price list and complete catalog of all REDMER chucks.

REDMER AIR DEVICES INC.
Guntersville • Box NED • Alabama

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LOW COST INCINERATOR

BURNS
TRASH
SAFELY
OUTDOORS

Only $110.00 COMPLETE

NO INSTALLATION COST

Burn wrappings, sweepings, papers, cartons, packing, rags, food waste, safely outdoors. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing papers. Burns damp, green, or dry refuse to fine ash in any weather. Minimizes smoke and smell, needs no watching. Safe for use 10' from buildings. Stands 52" high x 35" square at base. 10 bushel burning capacity. Complete with hinged hood, ash pan base and grate and cleanout door. Made of aluminized steel (molten aluminum bonded to steel) with replaceable inner steel panel construction for long life. Shipped assembled—weight 170 lbs. Only $110.00 F.O.B. Cleveland. Satisfaction guaranteed. Other sizes available.

Write for **FREE** *Folder*

ALSTO COMPANY
Dept. NE-3 4007 Detroit Ave. Cleveland 13, Ohio

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NEW SOLENOID VALVES *by Airmatic*

These corrosion-proof valves have only one internal moving part and a completely protected solenoid coil. The coil is fully sealed from air, oil, gas and water . . . and will not overheat on continuous duty. Coils for continuous or intermittent duty, a-c or d-c, are interchangeable.

Life expectancy is many millions of cycles and by renewing the one-piece valve plunger, many millions more can be expected. The plunger can be replaced without disturbing rigid piping.

OPTIONAL DESIGNS

MANUAL OVER-RIDE

MANIFOLD MOUNTING

DISTRIBUTORSHIPS FOR THESE NEW VALVES ARE AVAILABLE

ASK FOR CATALOG
All valve deliveries are made from stock.

SPECIFICATIONS		
	TWO-WAY	THREE-WAY
CATALOG NO.	91011	91011
PRESSURE RANGE	1/16" ORIFICE: 0-500 PSI 3/16" ORIFICE: 0- 70 PSI	1/8" ORIFICE: 0-300 PSI 3/16" ORIFICE: 0-100 PSI
ORIFICES	1/16" THROUGH 3/16"	1/8" AND 3/16"
VOLTAGE	MOST A-C AND D-C	MOST A-C AND D-C
DUTY	CONTINUOUS	CONTINUOUS
POWER CONSUMPTION	10 - 20 WATTS	10 - 20 WATTS
HEAT RISE	WITHIN UL LIMITS	WITHIN UL LIMITS

AIRMATIC VALVE, Inc.
7313 Associate Avenue • Cleveland 9, Ohio

EVERYTHING UNDER CONTROL
Phone: WOodbine 1-5320 • WESTERN UNION: Airmatic Valve, Inc., FAX, Cleveland, Ohio

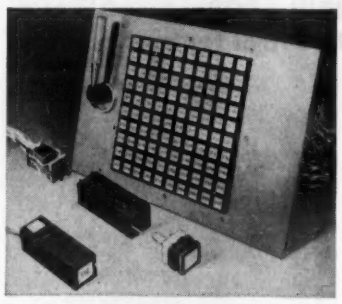
▲ For more details circle NED-704 C9 on enclosed inquiry slip ▲

SHADED-POLE MOTORS for extreme moisture conditions

Integral stator core insulation incorporated in KSP-29 shaded-pole motors for window fans and portable evaporative coolers assures long life under extreme moisture conditions. Insulation has greater dielectric strength than material formerly used, cannot slip out of place, eliminates failures from wound-under wires, and holds lamination pole tips firmly together for reduced vibration and lower noise level. Motors can be oiled through flexible oilers, if necessary. These 5-in. diameter motors are rated to 1/8-hp in 4 and 6-pole models for standard ac voltages. Made by General Electric Co., 1 River Rd., Schenectady 5, N. Y.

▲ For more details circle NED-705 C9 on enclosed inquiry slip ▲

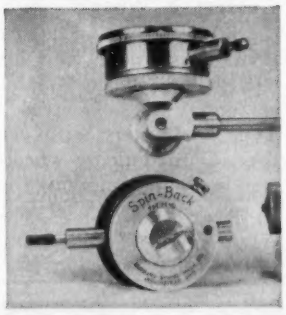
LIGHTED PUSHBUTTON SWITCHES each 6-amp, 2-bulb unit is square



Square modular construction of Series C-20 double-lighted pushbutton double switches increases their versatility. Unit mounts in a 7/8-in. square hole. Any number can be mounted side-by-side in a common hole without barriers. Button and light assembly is removable from front of panel for relamping. The two bulbs can be of different colors, and each can indicate two functions by using steady or flashing light. The two Electrosnap T3 Series, single-pole double-throw switches have wire lead termination. They are rated 6 amp at 125/250 v ac. An optional baffle allows lighting half of button. Made by **Electrosnap Corp.**, 4218 W. Lake St., Chicago 24, Ill.

▲ For more details circle NED-706 C9 on enclosed inquiry slip ▲

INDICATOR POSITIONER holds against vibration of machine



Operation of the Spin-Back all-angle positioner for dial indicators is smooth, with a feather touch, yet will hold against vibration of a machine. The self-contained assembled unit is extremely rigid for precision work using tenth indicators, and is light in weight and nonmagnetic. A screwdriver is the only tool required to equip present dial indicators with the Spin-Back positioner. Instrument mount fits most popular makes of dial indicators of 2 to 2 1/4-in. dial size. Made by **Hubbard-Spring Machine Co.**, 117 E. Third St., Uhrichsville, Ohio.

▲ For more details circle NED-707 C9 on enclosed inquiry slip ▲

30-GAL DRUM TOP converts drum to waste container

Any 30-gal grease drum, or drum with 16 3/4 to 19 3/4 in. diameter can be made into a sanitary, fire-resistant, self-closing waste container with the Model 63 Drum Top. Adjustable hold-down clamps adapt the drum top to the wide drum size range. Gentle spring action of chromium plated top door and a rubber gasket assure silent door action. Made of phosphate-treated heavy gage steel, the top has a baked enamel finish which allows indoor or outside use. Made by Bennett Mfg. Co., Alden, N. Y.

▲ For more details circle NED-708 C9 on enclosed inquiry slip ▲

THE *Original* 4 POINT PUNCH

NYE KNOCKOUT PUNCH

Each punch 1/2" to 4" has the ORIGINAL 4-POINT cutting feature which takes the toil out of the job. Cuts clean, quick knockouts speedily, smoothly and burrless. Ball bearing chuck prevents friction. Hand or hydraulic.

Try a NYE and know the best. Order today.

NYE TOOL COMPANY
4126 WEST FULLERTON AVE., CHICAGO 39, ILLINOIS

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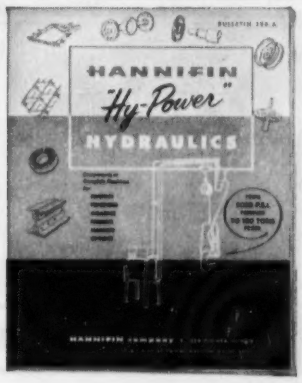
32 pages describe Hannifin STANDARD 5,000 P.S.I. hydraulic components



...find out about Hannifin "Hy-Power"!

Find out about standard Hannifin 5,000 p.s.i. components, thoroughly proved, available today. Bulletin 150-A lists Hannifin 5,000 p.s.i. "Hy-Power" cylinders for actuation by Hannifin's exclusive, patented "Hy-Power" hydraulic pressure generator, sold as a packaged power unit, with 1,000 p.s.i. pumping and valving, 5,000 p.s.i. output. Fully automatic. Ideal where maximum force must be made available in minimum space. Write for your copy.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

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MARK METAL-WOOD-PLASTICS-GLASS

COLLAPSIBLE TUBE WITH BALL POINT

7 STANDARD COLORS

WITH THE *Nissen* MARKER

Line 5/64" Thick
Line 1/8" Thick
Line 3/16" Thick

A handy, easy-to-use, ball-point marker for coding, numbering, marking on metal, wood, plastic and glass—smooth or rough surfaces. The tube contains a special, fast drying *opaque* ink that withstands heat and weathering under adverse conditions and will not chip, peel, fade or rub off.

Three different size ball points are available for making fine or broad lines—as illustrated.

JOHN P. NISSEN, JR. CO., *Manufacturers*
GLENSIDE, PA.

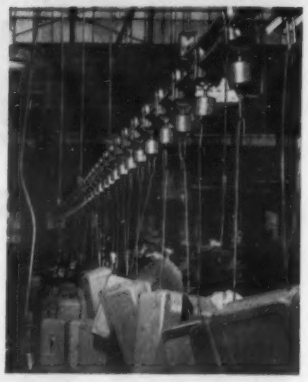
▲ For more details circle NED-711 C9 on enclosed inquiry slip ▲

2000 feet of floor space saved with

AMERICAN "Cable-Way"®

This 700-foot overhead "Cable-Way" Conveyor also:

1. Increased production 50%.
2. Reduced labor costs.
3. Improved painting and assembly methods.



Parts move on rotating hangers through burn-off oven, hand spray painting, electrostatic spray, and a bake oven.

LOW-COST... EASILY INSTALLED

All-bolted construction. Track can be suspended or floor-mounted. Motor-driven sprockets engage in drive lugs in pitch on continuous cable. Compact dips. Write for Catalog CDA.

CONVEYOR DIVISION
THE AMERICAN MONORAIL CO.
Fourth & Franklin Streets • Tipp City 7, Ohio

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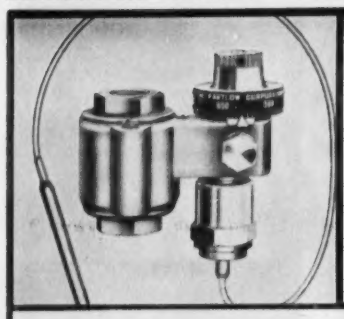

PARTLOW GAS CONTROL Model 40

For use in vertical pipelines. Other models, horizontally mounted, for pressures up to 20 psi., and pipe sizes ranging from 3/8 to 3 inches.

SELF-CONTAINED

Throttling Gas Valves for Heating Appliances

Partlow thermally-operated gas valves require no outside power source or extra accessories. They function as accurate, self-contained control systems. Designed for use with virtually any industrial heating appliance, Partlow gas controls throttle to an exact valve position, and maintain precise temperatures without cycling, saw-toothing or overshooting. Mercury elements are interchangeable, permitting fast, "screwdriver" maintenance in the field. Models available in 9 optional temperature ranges up to 1100° F.

Field-test the Partlow now, without cost or obligation. For details write, wire or phone Dept. N-359.

The Partlow Corporation, New Hartford, N. Y.

You can pay more but you can't buy better than

PARTLOW

TEMPERATURE CONTROLS

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Here's ALL YOU NEED to REPAIR your HYDRAULIC JACK!

JACK-PACK
HYDRAULIC
JACK REPAIR KITS & JACK OIL

JACK-PACK repair kits contain easy-to-follow instructions and all the packings necessary to make your jack work like new. And, be sure to use JACK-PACK hydraulic jack oil. It's the only oil with complete instructions for filling and bleeding your jack on the can.

ALL MAKES ALL MODELS

Save Money...Try a JACK-PACK!

- No more big jack repair bills.
- No more high freight charges.
- No more long equipment tie-ups.

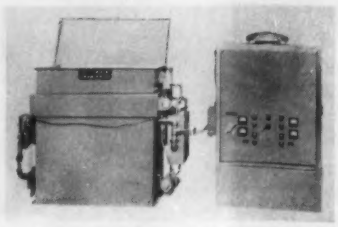
Write today for free folder:

jack pack MFG. COMPANY
2115 No. Marianna Ave., Los Angeles 32, Calif.

ORDER FROM YOUR JOBBER!

▲ For more details circle NED-714 C9 on enclosed inquiry slip ▲

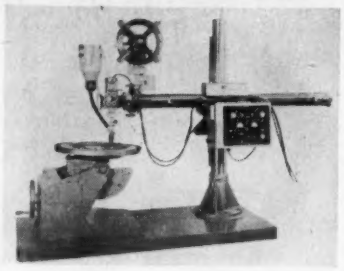
ULTRASONIC DEGREASER cleans many nonabsorbent materials



Soils from grinding, polishing, buffing, honing, and drawing are readily removed, even from cavities and small bores, by the Detrex 1288 Soniclean degreaser. It employs ultrasonic agitation and cavitation to vibrate nonabsorbent materials such as metals, glass, and molded products for cleaning. Barium titanite transducers give full sonic agitation over the work area of 18 x 21 x 8 in. The 6-kw, 220 or 440-v generator has a 2500-w 400-kc output. Work is handled manually or by hoist in baskets or on fixtures. Degreaser also incorporates a filtered and cooled solvent rinse with ultrasonic agitation, clean distillate spray, and final pure vapor rinse. Made by **Detrex Chemical Industries, Inc.**, Box 501, Detroit 32, Mich.

▲ For more details circle NED-715 C9 on enclosed inquiry slip ▲

WELDING MANIPULATOR has optional control for motions



Infinite travel speeds from 10 to 150 ipm are provided by the ¼-hp, 110-v dc motor of this manipulator for automatic welding. It is mounted on a pedestal or cylindrical type base. Horizontal boom of tubular steel has machine steel guideways with a rack gear and a maximum clearance of 42 in. Effective weld length is 42 in. Tubular steel mast has a gear rack for vertical boom movement. Vertical lift speed is 12 ipm. Mast will pivot 360 degrees and can be locked in any position. Limit switches provide against overtravel in any direction. An optional control panel provides for speed control of all operations. Panel can be mounted on the manipulator or remote. Made by **Miami Specialties Co.**, Trade Road, Troy, Ohio.

▲ For more details circle NED-716 C9 on enclosed inquiry slip ▲

Casters & Wheels

Darnell Corp.—Prices, design features, specifications, illustrations, and dimensional drawings are included in 192-page Manual No. 65 for a series of casters and wheels. Covered are series 60 brake casters; Type 4L casters with zero pressure and pneumatic tires; Darnelloprene wheels in Series 60 to 4000 casters; gray nonmarking and electrically conductive wheels; and Series 60 and 70 wheels with self-lubricating graphite bearings.

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INCREASE PRODUCTION as much as 40%

CUT POWER CONSUMPTION

... with Luma

RESISTANCE SOLDER TOOLS

Designed to handle numerous production soldering jobs from fine, "pinpoint" precision to medium-heavy industrial operations. More than 16 styles of electrode holders to fit individual soft or hard soldering operations, (see above bench type holder).

Eighteen stages of heat with a 6-stage selector switch used in conjunction with 3 secondary terminals.

A wide range of power—5 to 1800 watts—quickly supplies concentrated heat at exact area—insures perfectly soldered joints with maximum—

SPEED • SAFETY • FLEXIBILITY • ECONOMY

Write today for New Catalog descriptive of Luma's Resistance Method of Soldering.

Luma

THE LUMA ELECTRIC EQUIPMENT CO.
P.O. Box 132-NED • Toledo, Ohio

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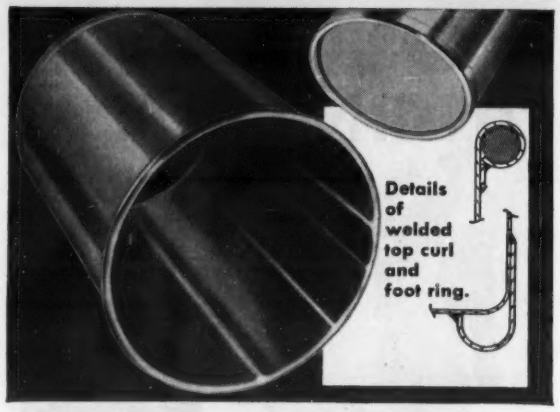

Hackney Stainless Steel Crevice-Free Food Containers

- Meet local, federal maximum sanitary regulations
- Welded foot ring curl and top curl crevices
- Seamless type construction
- Made to resist years of hard service
- 30-, 55-gal. sizes—8 models; 2 types of covers available
- Plain and soldered-crevice models for less critical service

Send for complete details. Write:

Hackney

Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 S. 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

▲ For more details circle NED-719 C9 on enclosed inquiry slip ▲

Belleville Springs

Where range of deflection is limited and loads are heavy, Belleville washers may have the answer for you. Can be stacked in series, parallel, or in combination. Can also be made to exert constant pressure. For information and helpful design pointers, send for booklet "Belleville Springs."

Associated Spring Corporation
General Offices
Bristol, Connecticut

6827

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ANNOUNCING

Another NEW Performance Leader—

The AC 3,000-lb FTB30-15

You can expect *big* performance and *big* savings from the new Allis-Chalmers FTB30-15 lift truck...and here's why:

It has the **power** for big performance — full 35 hp.

It has the **gradability** for big performance — climbs grades as steep as 40 percent, loaded.

It has the **maneuverability** for big performance. Outside turning radius is only 64 in.

It has the **serviceability** for big savings. Just 20 seconds to prepare for service, 20 minutes to prepare for overhaul.

Let your Allis-Chalmers material handling dealer show you the big extras you get with a new FTB30-15 lift truck. Send for descriptive literature. Allis-Chalmers, Milwaukee 1, Wisconsin.

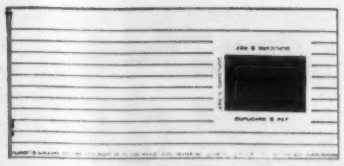
ALLIS-CHALMERS

BH-100

▲ For more details circle NED-721 C9 on enclosed inquiry slip ▲

▲ For more details circle NED-722 C9 on enclosed inquiry slip ▲

DIAZO FILM TAB CARD
made from master for single use



Engineering drawing reference and filing procedures are simplified with the use of the REF Duplicard, a tab-size Military D aperture card with a blank piece of diazo film mounted in the aperture. Card can be used for one-time reference, or reproduction of one or a few drawing copies. With the number of the required drawing written on the card, a clerk can pull the master aperture card with its microfilmed engineering drawings. Using a microfilm diazo printer, the drawing image is reproduced onto the Duplicard. Master card can then be returned to file immediately, while the Duplicard becomes a print which can be discarded after reference or reproduction. Complete card is priced at 3¾ cents. Made by **Filmsort Co.**, 50 S. Pearl St., Pearl River, N. Y.

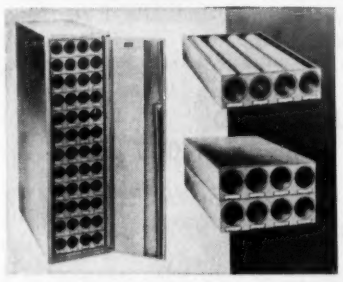
▲ For more details circle NED-725 C9 on enclosed inquiry slip ▲

VIBRATION ABSORBING PAD
for mounting heavy machinery

Offered as a preformed pad material, Sorbtex for machinery mounting withstands loads up to 20,000 psi. It retains its original dimensions under frequent compressions and impact; has a small, limited creep; and will resist oil, steam, mildew, cold, brine, and abrasive action. It is offered in a wide range of thicknesses in preformed pads, slab stock, and special shapes. Made by **Voss Belting & Specialty Co.**, Preformed Pad Div., 5645 N. Ravenswood Ave., Chicago 26, Ill.

▲ For more details circle NED-726 C9 on enclosed inquiry slip ▲

TUBE ROLL FILE
in 27 and 33-in. tube lengths



Rolled prints, charts, drawings, maps, and tracings are adequately protected by storage in the Plan Hold roll file which consists of four 2⅝-in. diameter Duro tubes held together by modular steel casing. Units measure 12 x 4 in. and are offered in 27 and 33-in. tube lengths. Slide-together stacking feature allows units to be assembled for desk top mounting, or under-surface table mounting by means of special slide-on top which is provided with mounting holes for suspension. A steel filing cabinet with cylinder lock in handle accommodates 12 roll file units for a total of 48 tubes. Fabric labels are provided for write-on identifications. Made by **Plan Hold Corp.**, Box 1038, South Gate, Calif.

▲ For more details circle NED-727 C9 on enclosed inquiry slip ▲

Quality DE-STA-CO Toggle Clamps Check Quality ROSS Valves

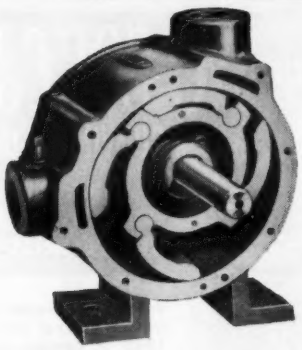
Ross Operating Valve subjects every valve to a rigid pressure test. And for 15 years fixtures equipped with De-Sta-Co No. 620 plunger clamps have performed this critical sealing job.

What's *your* holding or fast-clamping operation—inspection, machining, tapping, grinding, welding, bonding, fastener assembly? There is a *specific* De-Sta-Co Toggle Clamp to do it better. Fast, positive clamping, long life in grueling production have made De-Sta-Co the leader for almost 30 years. And all medium and larger models use hardened serrated pins in hardened bushings staked to avoid turning and wear. Many spindle accessories increase versatility of the clamp you specify. Our stocking distributor in your area is ready to serve you. Send for catalog now.

Also De-Sta-Co stampings, washers, spacers, shims, shim stock, feeler stock, blower housings, marine specialties.

DE-STA-CO DETROIT STAMPING CO.
360 MIDLAND AVENUE • DETROIT 3, MICHIGAN

▲ For more details circle NED-728 C9 on enclosed inquiry slip ▲



Higher Vacuum ... Suction ... Pressure with Smaller LEIMAN AIR PUMPS

Exclusive Hinged Vane Design provides 2 to 3 times more air space per size and weight of pump

Leiman simplified design has fewer moving parts. All parts made of durable cast iron and steel (not composition). Take up their own wear to give "lifetime" service. No gaskets or packing —no tips to renew—no troubles—little maintenance. Quiet operation. Every pump tested. Wide range of models and sizes in Vacuum to 29.9" hg., Pressure to 20 psig., Volume to 162 cfm. Write for 16-page Catalog and Application Book showing dozens of "how-to-do-it" blueprints.

LEIMAN BROS., Inc., 167 Christie St., Newark 5, N. J.

LEIMAN Rotary Positive AIR PUMPS

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GRIPPER® woven wire SLINGS

here's GENTLENESS for any lifting job

With a Gripper Sling, even delicate motor parts, polished stock or thin walled tubing can be moved without load damage. The smooth, broad bearing surface doesn't cut or score the load. Spiral wire construction gives the Gripper Sling complete flexibility . . . allows the sling to wrap around the load and hold it in a firm, but gentle, grip. Gripper Slings are extra safe because there's nothing to snap or tear suddenly and drop the load.

Gripper Slings, pretested to meet load specifications, are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or Neoprene or PVC covered slings available. Write for FREE CATALOG and name of your nearest materials handling distributor.

The Cambridge Wire Cloth Co.
Department C • Cambridge 3, Md.

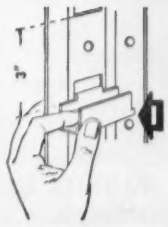
▲ For more details circle NED-724 C9 on enclosed inquiry slip ▲

year after year

BORROUGHS STEEL SHELVING

is FIRST in value because

Borroughs Shelf Support Bracket makes it the most simple, most flexible, most rapidly assembled shelving on the market!



Insert shelf support bracket . . . no fumbling with studs, bolts, nuts or lock washers.

Tilt shelf into support bracket . . . and shelf is ready for loading.

You'll never know how quick and easy it is to install or rearrange shelves until you use Borroughs Steel Shelving with Borroughs Shelf Support Bracket! (See copy at left). And these facts are mighty important, too . . . except for the top shelf (2 bolts and 2 nuts), no other bolts or nuts are required for Borroughs shelves . . . and you need no special tools to assemble units. Each individual unit is complete in itself. Any unit or shelf can be moved independently. Learn more!

send for catalog
Represented in Sweet's Catalog, Plant Engineering File 4G BO

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

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SAVE UP TO 25% ON ELEVATOR COSTS

Using dependable hydraulic power, Rotary Oildraulic Elevators operate with maximum efficiency. Power is applied directly to the load . . . no lost motion or wasted energy. The elevator car is supported by a powerful hydraulic jack, eliminating the need for heavy load-bearing shaftway and overhead machinery. Capacities to 100,000 lbs. Installed and serviced by a nationwide organization. Write for catalogs.

ROTARY OILDRAULIC® ELEVATORS

Rotary Lift Company
Division of Dover Corporation
1021 KENTUCKY • MEMPHIS 2, TENN.

▲ For more details circle NED-730 C9 on enclosed inquiry slip ▲

Re-Power With FUNK Modular Units

FUNK TORQUE CONVERTERS

Extend the life of your engines, prevent stalls, eliminate damaging shock loads — re-power with FUNK Torque Converters. Compact units, fit SAE housings. FUNK Standard Flange System easily adapts other FUNK units for your power needs.

FUNK GEAR REDUCTIONS

Small, popular-make high speed engines equipped with low-cost FUNK Gear Reductions develop the same power output at substantial savings over large expensive slow speed engines. Eliminate expensive and dangerous V-belt and chain drives. Exclusive FUNK Straddle Mounted Pinion. Proved Performance.

Consult Your Dealer or Write

FUNK MFG. CO. P. O. BOX 577-C COFFEYVILLE, KANSAS

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ANOTHER *PANNIER* MASTER MARKER!

New Roto-Pin type lock is integral part of *all* Pannier Supreme Holders . . . eliminates loose, bent, dropped, or lost pins . . . flip it open to change type . . . flip it back to securely lock type in clear-marking position.

PANNIER'S SUPREME HOLDER WITH ROTO-PIN LOCK
Safe, fast type changing. Holder in variety of styles. Machined from High-Grade Bar Tool Steel. Hardened anvil maintains type alignment. Striking Head of Tool Steel . . . Replaceable to add long service life to Holder.

Write for complete data.

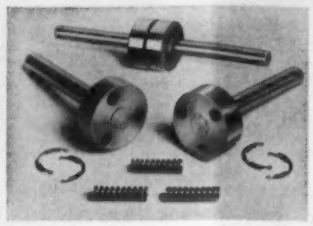
BIRTHMARKED MATERIALS

MARKING DEVICES — THE PANNIER CORPORATION

301 Pannier Building • FAirfax 1-5185 • Pittsburgh 12, Pa.
Offices: Los Angeles • Chicago • Cleveland • Philadelphia • Birmingham

▲ For more details circle NED-732 C9 on enclosed inquiry slip ▲

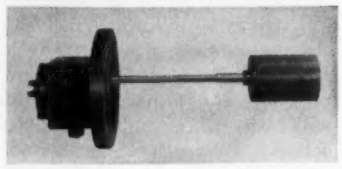
FREE-ALIGNING COUPLING
helical springs transmit thrust



Operating in either direction of rotation, the free-aligning AMC coupling can be installed vertically or horizontally without parts change. Its simple design permits machinery to be connected and disconnected with a screwdriver. Joined halves of the coupling transmit thrust through helical wire springs held in place by snap or split rings. Coupling is shock absorbing and permits maximum misalignment as it transmits torque without end thrust, even under load. Load factor is 7:1. Light, medium, and heavy series accommodate up to 2-in., from 2 to 5-in., and from 5 to 12-in. diameter shafts, respectively. Larger shaft diameters can be specified. Standard model is steel, but other metals can be ordered. Made by **Atomatic Mfg. Co.**, East Pittsburgh, Pa.

▲ For more details circle NED-733 C9 on enclosed inquiry slip ▲

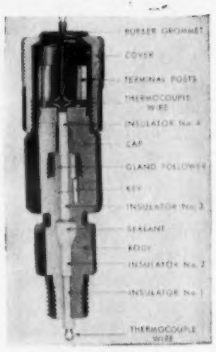
FLOAT CONTROL
operates on two dissimilar fluids



Especially suited for use on calibrated tanks, the Mic-O-Flex float control provides control action at the exact calibration marks on the tank. Made of solid Synthane discs, it does not actually float. Degree of transmitted action is a function of the decrease in weight due to immersion. It can thus operate on any two fluids of dissimilar densities and is frequently used to maintain an interface between liquid hydrocarbons and water. A pilot rod extending through the flexure tube actuates a Micro Switch which can be raised or lowered for a 3½-in. set-point span. Control is rated to 1000 psi pressure, and 275° F temperature. Made by **Instruments, Inc.**, Box 556, Tulsa, Okla.

▲ For more details circle NED-734 C9 on enclosed inquiry slip ▲

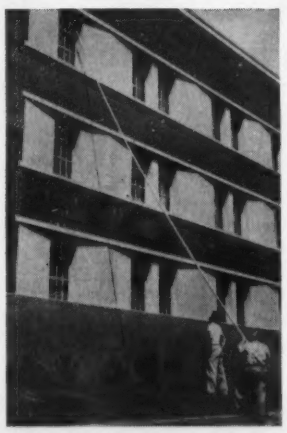
THERMOCOUPLE GLAND
seals wires at up to 20,000 psi



From two to eight bare wires are sealed at pressures from 0.005 micron to 20,000 psi by the Type C bare wire thermocouple gland. Unit seals and terminates 24, 20, or 14-gage wires and can be furnished with an open end tube to protect the wires mechanically in high velocity or viscous fluids. Glands may be assembled quickly, or can be furnished assembled. Immersion depth of hot junction is readily adjusted to any length. Glands are made of Type 303 stainless steel and have neoprene, Teflon, or lava sealants and ceramic insulators. Made by **Conax Corp.**, 2300 Walden Ave., Buffalo 25, N. Y.

▲ For more details circle NED-735 C9 on enclosed inquiry slip ▲

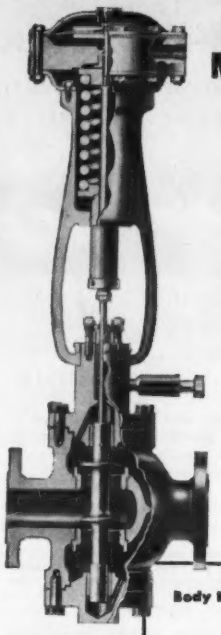
TELESCOPING WINDOW WASHERS
reach as high as five stories



High windows previously inaccessible to washing can be cleaned from the ground with this telescoping window washer. Shown is the 42-ft, three-story assembly, although customized units to reach as high as the fifth story are available. Brush is a combination of polyurethane foam with a nylon brush edge to get into corners and along edges. Standard brush is 12 in. wide but smaller brushes, including a 7½-in. size, are available. A special detergent made in the dispenser from compressed tablets circulates through a tube in the handle to the brush. A by-pass valve controls the detergent for rinsing. A goose-neck attachment is supplied for wide sills. Made by **Tucker Mfg. Co.**, Cedar Rapids, Iowa.

▲ For more details circle NED-736 C9 on enclosed inquiry slip ▲

For Accurate, Dependable Differential Pressure Regulation
Masoneilan No. 525D



For steam, gas or liquid service, this Masoneilan Differential Pressure Regulator is used for maintaining discharge pressure in excess of a reference pressure by an adjustable amount. Single Seated Valve No. 535D is recommended for tight shut-off.

Condensed specifications are below. For further information send for Catalog No. 77 or contact your local Mason-Neilan distributor.

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan St., Norwood, Mass.

A HIGH Q PRODUCT

Order from your Mason-Neilan distributor — use his experience — save work — save time.

CONDENSED SPECIFICATIONS:

Body Ratings:	From 125 psi @ 365°F. to 600 psi @ 800°F.
Sizes:	½" to 4"
Materials:	Iron or steel bodies with screwed or flanged connections
Ranges:	Low pressure head — between 3 and 125 psi. High pressure head — between 3 and 330 psi

▲ For more details circle NED-737 C9 on enclosed inquiry slip ▲

this NO-COST TEST OFFER has CONVINCED thousands

. . . send for YOUR FREE "TEST CAN" of C-5 "hi-temp" ANTI-SEIZE THREAD COMPOUND!

For use wherever threaded connections are subjected up to 1800° F. temperatures such as boiler, manhole, face plate studs, cylinder heads, and manifold studs or flange bolts on high temp steam lines and pumps.

Try C-5 and see why manufacturers, refiners and power producers have made it a part of their regular preventative maintenance program.

fel-pro C5 "HIGH-TEMP"

- ✓ Ends Seizing and Galling even up to 1800°F.
- ✓ Reduces Wrench Torque
- ✓ Ends Stud Breakage
- ✓ Permits Repeated Re-use
- ✓ Speeds Assembly and Disassembly
- ✓ Protects Stainless Steel at all Temperatures

1614BR

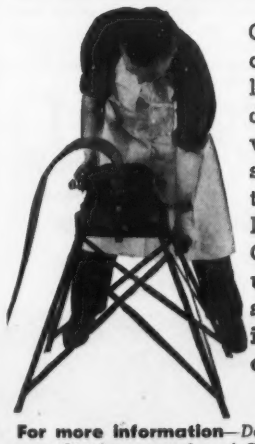
ANTI-SEIZE THREAD COMPOUND

C-5's exclusive colloidal copper formula separates mating metal threads and surfaces with cushioning, protective copper plating. C-5 prevents galvanic action and eliminates pitting even when dissimilar metals join. On mating metal surfaces, C-5 saves gaskets and countless man hours.

WRITE TODAY . . . For Your FREE Test Sample Can of C-5.
FELT PRODUCTS MFG. CO.
Dept. 68, P. O. Box 8609, Chicago 80, Ill.

▲ For more details circle NED-738 C9 on enclosed inquiry slip ▲

ONE MAN laces 12 inches of belting in ONE MINUTE



Clipper machine-laced joints outlast any other type belt lacings. You can halt unproductive downtime, replace worn belts faster, tighten slack belts quicker and gain the benefit of better joints by lacing the Clipper way. Clipper Belt Lacers lace belts up to 12 inches wide in one simple easy operation, doing a better job in a fraction of the time of hand methods.

For more information—*Detailed product information and case history examples of Clipper machine-lacing benefits are contained in Bulletin No. 157. Send for your free copy.*

Clipper BELT LACER COMPANY
976 Front Ave., N. W., Grand Rapids 2, Michigan

▲ For more details circle NED-739 C9 on enclosed inquiry slip ▲

NEW IDEA in spray painting

Spray gun and paint cup are separate in Binks new STEADI-GRIP outfit to give you production spray painting equipment features in a portable package. Spray gun is the famous Binks Model 19. Pressure paint cup holds 2-quarts and has separate air and fluid regulators. Outfit is ideal for painting your small production runs or general plant and equipment painting maintenance.

Send for free Bulletin A81-1. Explains the many advantages. Ask your Binks industrial distributor for a copy or write direct.

Binks — EVERYTHING FOR SPRAY PAINTING

Ask about our spray painting school Open to all...NO TUITION...covers all phases.

Binks Manufacturing Co.
3122-34 West Carroll Avenue
Chicago 12, Illinois

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

▲ For more details circle NED-740 C9 on enclosed inquiry slip ▲

NEW INDICATING TEMPERATURE CONTROL

Range Limits —100 to +600°F E65N

New Design gives maximum accuracy at low cost!

The UE Type E65N control is offered in basic skeleton form so that it may be easily incorporated, or designed into equipment, without the need and expense of an enclosure. Enclosures, however, are available upon specification. Setting and indication are clearly visible on a single scale allowing easy reference between the setting and controlling temperatures. Ideal for incubators, centrifuges, oxygen tents, sterilizers, and other applications where it is necessary to control and indicate temperature of gases, liquids and hot plates.

Temperature Ranges	A wide variety of scales between −100 & +600°F.
Thermal Assemblies	Standard 4' capillary with several bulb styles and sizes.
Operation	Liquid filled bellows assembly expands or contracts with heating or cooling thus actuating a snap-acting electrical switch at desired control point.
Switch Ratings	15 amps 115/230 volts AC. DC and other special switches available.
Switch Actions	Normally closed; normally open; and double throw, no neutral position.
Electrical Connections	Lead wires attached to terminal on switch.
Size & Weight	1 lb; scale plate 4½" wide.
Variations	Design variations available on request.

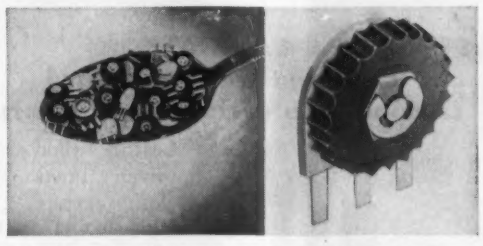
UNITED ELECTRIC *manufactures a complete line of temperature, pressure and vacuum controls. For application requiring custom-built units or modified standard units, call upon a UE application engineer for recommendations. Request Type E65N Design Catalog Sheet for complete specification and pricing data and for information regarding other United Electric temperature controls.*

United Electric Controls COMPANY
85 SCHOOL STREET, WATERTOWN, MASS

▲ For more details circle NED-741 C9 on enclosed inquiry slip ▲

VARIABLE RESISTOR has diameter of only 0.286 in.

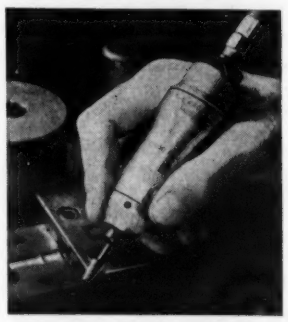
Rated 1/10 w, the Model 8 Radiohm microminiature variable resistor has a component density of 188 per cubic inch. It is only 0.286-in. round and 0.110-in.



deep. The left photo shows 58 of the units in a teaspoon. Resistor is available in resistance values of 500 ohms to 10 megohms in a wide range of tapers. Minimum rotational life is 25,000 cycles. Made by **Globe-Union Inc.**, Centralab Div., 900 E. Keefe Ave., Milwaukee 1, Wis.

▲ For more details circle NED-742 C9 on enclosed inquiry slip ▲

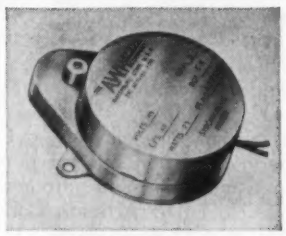
AIR-POWERED GRINDER operates at 75,000 rpm on 90 psi



On 90-psi air pressure, this "imp" Model 7979 turbine grinder operates at 75,000 rpm. It can be used to grind, deburr, cut, or polish wherever ⅛-in. shank mounted wheels or cutters are used. Vanes of single-stage impeller allow a straight-through flow of air which is discharged at the spindle end to blow chips and particles away from work. Twist type throttle delivers maximum air with slightly more than a quarter-turn. Tool weighs 7 oz, and is 4½ in. long over-all. It is also offered in a wooden-chest kit which provides a 7-ft air hose with cartridge filter, collet wrench, dressing stone, and four mounted grinding wheels. Made by **Aro Equipment Corp.**, Erie Street, Bryan, Ohio.

▲ For more details circle NED-743 C9 on enclosed inquiry slip ▲

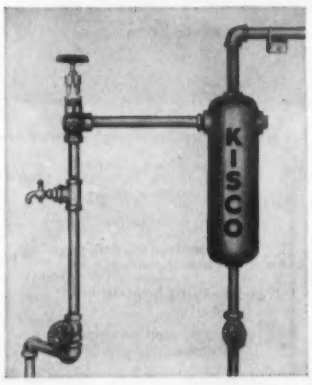
SYNCHRONOUS TIMING MOTORS ⅞-in. thick units take little space



Only ⅞ in. thick, these synchronous timing motors occupy minimum space without sacrificing performance and reliability. They are offered for 25, 50, or 60-cycle operation in five standard voltage ratings. Over 125 standard output speeds from 300 rpm down to one revolution in 6 hr can be supplied with either standard or heavy-duty gear trains. Motors have nominal 30 oz-in. running torque at 1 rpm. Series 22100 motors meet MIL-E-5272A specifications, whereas Series 42100 (nonmilitary version) serve high volume industrial and commercial applications. Made by **A. W. Haydon Co.**, 251 N. Elm St., Waterbury, Conn.

▲ For more details circle NED-744 C9 on enclosed inquiry slip ▲

BOILER BLOW-DOWN SYSTEM continuous type for any boiler



Continuous boiler blow-down to prevent build-up of concentrations of dissolved and suspended solids is provided by the Contin-U-Blo system. Method will conserve heat and water by not manually blowing down excessively, yet assures clean, quality steam production. Flow control valve can be set for any volume of blow down and functions automatically without affecting boiler pressure or loss of steam. System has no mechanical moving parts and requires only a few simple pipe fittings for installation. Made by **Kisco Boiler & Engineering Co.**, 2400 DeKalb St., St. Louis 4, Mo.

▲ For more details circle NED-745 C9 on enclosed inquiry slip ▲

This NEW Manual Starter has EVERYTHING!

Write for **BULLETIN 2510 B-C**
Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

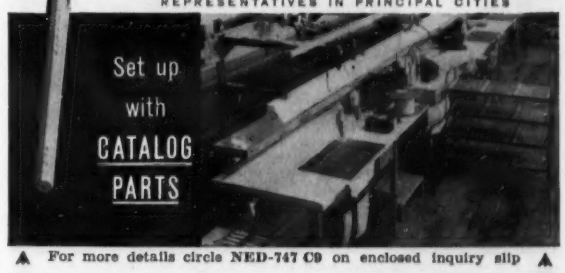
SQUARE D COMPANY

▲ For more details circle NED-746 C9 on enclosed inquiry slip ▲

PRODUCT-A-FLOW Modular Work Stations

Free your layout planning from conventional bench limitations. Develop the layout to solve your problems of space, time and motion economy...and set it up with standard Product-A-Flow catalog parts. It's easy! Three types of telescoping members frame any configuration and form many modular accessories. Other modular accessories include shelving, lighting, conveyors, circuitry, piping...and there are drawers, pocketbook holders, etc. All elements positioned where wanted. Layouts readily modified or changed. Lift-out worktops. Send for bulletin 158.

PRODUCT-A-FLOW
PRODUCTS FOR INDUSTRY
1530 Summer Street • Stamford 6, Connecticut • DAvis 4-4256
REPRESENTATIVES IN PRINCIPAL CITIES



▲ For more details circle NED-747 C9 on enclosed inquiry slip ▲

New and Improved . . .
"SEALINE"
THERMO-PLASTIC HAND SEALER

For Polyethylene—Pliofilm and Other Thermoplastics

- **"Teflon" coated roller eliminates intermediate material or liquid—Seals direct.**
- **Now available for 220 Volts. AC or DC—110V or 220V.**

$23.90 F.O.B. CHICAGO

- For fast, flat sealing—straight or irregular shapes.
- Seals direct—no intermediate material required.
- Accurate adjustable heat control—200° to 450° F.
- Easy to handle—weighs less than 1 lb.

Order direct or write

SEALINE MFG. CORP.
4720 W. Lake St., Chicago 44, Illinois

▲ For more details circle NED-748 C9 on enclosed inquiry slip ▲

NEW... first truly linear
rotameter flow transmitter

The MPT-50 Transmitter is only 5x6x12 inches but full of proven new ideas. You should see it.

Another milestone. The new Brooks MPT-50 Transmitter gives a fully linear pneumatic signal based on true flow rate, not simply float position. The MPT-50 is unique; it increases the accuracy of a transmitted flow signal. Accuracy to 1% is attainable based on air output versus actual flow rate. Extremely low flow ranges are also within the scope of the MPT-50. You can go down to 50 to 500 cc/min. with the same dependable transmission.

Write for Spec. Sheet SS-170-1.

BROOKS ROTAMETER CO.
359 K STREET Lansdale, Pa.
Specialists in Complete Rotameter Instrumentation
B.A.1810

For more details circle NED-749 C9 on enclosed inquiry slip

THE *Right* KNIFE CLEARANCE FOR EVERY PLATE THICKNESS

It is simple, fast and easy to adjust the knife clearance on a Steelweld Pivoted-Blade Shear to suit every plate thickness. Only turn a crank and watch a dial. That's all there is to it.

Because of this quick, easy adjustment, every cut made on Steelweld Shears is the best cut possible — straight, smooth, accurate. And of importance, KNIVES REMAIN SHARPER FOR LONGER PERIODS.

Built for thicknesses to 2 in. and for lengths to 30 feet.

STEELWELD Pivoted-Blade SHEARS CATALOG No 2011

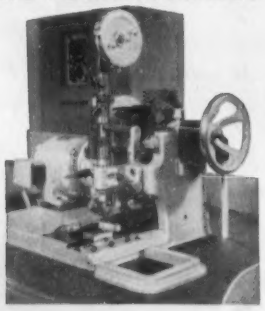
Send for free Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6616 East 282nd St., Wickliffe, O

STEELWELD SHEARS

For more details circle NED-750 C9 on enclosed inquiry slip

PRECISION WELD ELECTRICAL CONTACTS AUTOMATICALLY



Electrical contacts are welded on leaf springs and other instrument components at rates of from 1200 to 2400 per hour on Sheffield Automatic Welding Machines.

Size, shape and location of the welds are all under precise control.

Weld metal may be gold, silver, platinum, palladium, iridium and others.

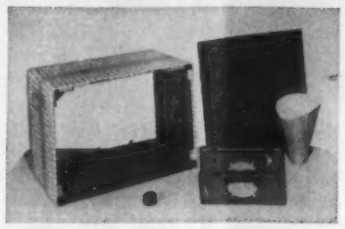
WRITE FOR DATA on the point and disc type welding machines to The Sheffield Corporation, Dayton 1, Ohio, U.S.A., Dept. 13.

the **SHEFFIELD** *corporation*
of Bendix Aviation
manufacture and measurement for mankind 7726

For more details circle NED-751 C9 on enclosed inquiry slip

New Processes and Materials

PLASTIC-METAL LAMINATE also combined with hardboard or applied to customer's products

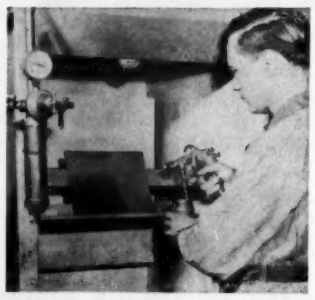


Leather, wood grain, woven linen, and cloth textures are but a few of the finishes available in Cladplate. Vinyl is laminated to metals such as steel, aluminum, and magnesium as well as to plywood, hardboard, asbestos board, and other materials. Cladplate can be applied to customer's materials, or it can be supplied as a sheet cut to size and ready for application. Various textures, designs, colors, and multicolor effects can be furnished.

Cladplate can be bent, drawn, spun, drilled, sawed, cemented, welded, and embossed. This laminate is highly resistant to abrasion, corrosion, heat, humidity, petroleum products, acids, salts, and detergents. Reportedly, it will not chip, mar, or scratch because of a 2-mil thick clear protective coating. Made by **North-East Laminates, Inc.**, Industrial Park, Lowell, Mass.

For more details circle NED-752 C9 on enclosed inquiry slip

TEFLON RESIN COATINGS are protective and lubricating



Characteristics of Emralon 310 and 320 Teflon resin coatings enable their application to wood, rubber, plastics, light metals and other heat - sensitive surfaces. The dispersion is composed of processed tetrafluoroethylene resins suspended in a liquid carrier which is added to a binder solution. Resultant smooth dispersion produces a lubricating, corrosion resistant film. Curing is possible at 300° F or even less. Coating has low coefficient of friction, flexibility, chemical inertness, less than 0.01 moisture absorption, and is exceptionally durable. It will withstand from 450 to 500° F. Uses include coating molds, drums, extrusion dies, gaskets and bearings, conveyors, military arms, fuel injector pumps, farm machining, business machines, and automotive frame and engine parts. Developed by **Acheson Colloids Co.**, 1635 Washington St., Port Huron, Mich.

For more details circle NED-753 C9 on enclosed inquiry slip

NEW! MOTORIZED LIFT TRUCK BATTERY CHARGER ELIMINATES SPECIAL WIRING

C&D *AutoReg** *Silicon Chargers*
A PRODUCT OF C&D BATTERIES, INC. OF CONSHOHOCKEN, PA. ATTICA, IND.

- No special wiring required.
- Plugs into a standard 15-ampere, 60-cycle, 115 v convenience outlet.
- Long, trouble-free life.
- Convection cooled, requires no maintenance.
- No aging adjustments required.
- Can be wall or battery mounted.
- Fully automatic; portable.
- For all 12-volt hand motorized lift truck batteries, up to 660 A.H.

*Trademark

Write for complete details in Bulletin AR-100.

Manufacturers of *Slyver-Clad*® Industrial Batteries. *PlastiCal*® and *PlastiCell* Batteries for Communications, Control and Auxiliary Power

For more details circle NED-754 C9 on enclosed inquiry slip

any size or shape

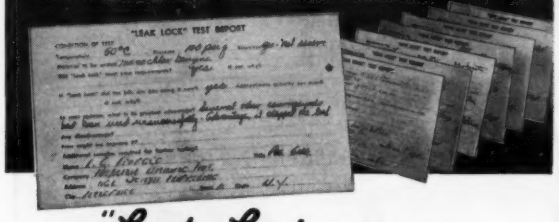
Whatever the size or shape of the bend for your pipe, tube or structural metal part, a PEDRICK PRODUCTION BENDER can do the job fast, accurately and economically. Let us demonstrate. Write PEDRICK TOOL AND MACHINE CO., 3640 N. Lawrence St., Philadelphia 40, Pa. Dept. 6.

Free "Pedrick Line" Bulletin. Write today.

PEDRICK PRODUCTION BENDERS

For more details circle NED-755 C9 on enclosed inquiry slip

THE PROOF KEEPS COMING IN!



"*Leak Lock* STOPS LEAKS WHERE OTHER JOINT SEALERS FAIL!"

Use *Leak Lock* to seal thread and flange joints... to keep bolts, nuts and plugs from loosening under the most rigorous usage. It's been job-proved in thousands of applications to give these advantages...

- Withstands solvents that eat away other joint compounds.
- Remains flexible indefinitely ... joints won't freeze.
- Gives a tight seal under a wide range of temperatures, pressures.
- Does *not* heat spontaneously.
- Is unaffected by oil, gasoline, refrigerants, most gases and chemicals.
- Makes work easier... flows on and stays where applied.

Approved by Underwriters' Laboratories for gas, oil, propane and butane equipment.

FREE SAMPLE—*Leak Lock* is available in handy tubes and in cans. Write on your letterhead for sample tube.

HIGHSIDE CHEMICALS INCORPORATED
14 COLFAX AVENUE • CLIFTON, N. J.

For more details circle NED-756 C9 on enclosed inquiry slip

BORIUM NOZZLES CLEAN FASTER

because MORE particles hit the target!

Because BORIUM Blast Cleaning Nozzles resist orifice wear and cut-outs the blast pattern stays closely grouped. This puts more particles in the target area—each delivered with extra impact because air velocity remains uniformly high. BORIUM is pure cast tungsten carbide—hardest known man-made metal.

BORIUM NOZZLES ARE GUARANTEED 300 HOURS when cleaning with silica sand; outlast hundreds of cast iron nozzles; increase blast cleaning nozzle life and efficiency with all abrasives. Write for free folder describing standard and special BORIUM Nozzle types.

STOODY COMPANY
11992 East Slauson Avenue, Whittier, California

For more details circle NED-757 C9 on enclosed inquiry slip

SAVE 50%
ON YOUR ADDRESSING COSTS WITH AUTOMATIC
ROL-FLO
STENCILER

Whether you must stencil 5 cartons or 5,000 the ROL-FLO will give you uninterrupted performance.

Proper pressure on the squeezable plastic handle keeps the roller saturated and working perfectly at all times. Designed especially for those whose stenciling needs call for a greater supply of ink or where an ink pad can not be conveniently carried.

This means high speed stenciling at a saving of 50% for your production line addressing.

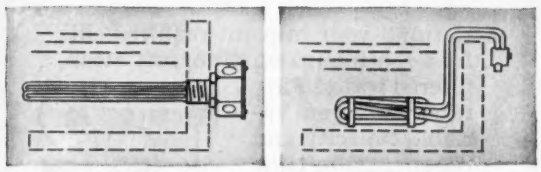
SEND FOR YOUR FREE COPY OF "HANDY HELPER" SHIPPING ROOM SUPPLY CATALOG

DIAGRAPH-BRADLEY INDUSTRIES, INC.
P. O. BOX 269 HERRIN, ILL.

▲ For more details circle NED-758 C9 on enclosed inquiry slip ▲

For fast heat, For clean heat . . .

Build heat into your product or process with General Electric immersion heaters



For heating liquids in your processing equipment or in your products no other method offers the cleanliness, speed and selectivity made possible by immersion heaters from General Electric.

You get all the heat: Because these heaters can be placed right in the liquid you get maximum efficiency. Heat losses to surrounding atmosphere are reduced. Working conditions are more comfortable.

Fire hazards reduced: Safer, quicker electric heat eliminates danger of open flame, inconvenience of smoke and fumes.

You get accurate control: To give you quick heat regulation for changing conditions, precise thermostat controls are available.

FREE BULLETINS

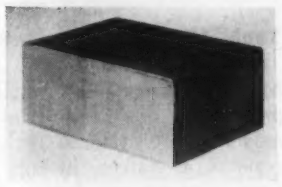
For more information, write Section 723-30, General Electric Company, Schenectady 5, N. Y., and ask for GEA-6305, HEATING WATER AND PLATING BATHS; GEA-6306, HEATING OIL; and GEC-1005 CATALOG OF GENERAL ELECTRIC HEATERS AND DEVICES.

GENERAL ELECTRIC

▲ For more details circle NED-759 C9 on enclosed inquiry slip ▲

New Processes & Materials

NONDEFORMING TOOL STEEL in larger flat bar sizes



PRK - 33 nondeforming tool steel, a high carbon, high chromium, air hardening type alloy, is now offered in 3 x 7, 4½ x 6, and 4 x 10-in. sizes. The largest size is over half again the size of the previous large bar. Suitable for heavy-gage stamping and severe applications for long runs, the alloy resists edge chipping, or crumbling. In can be used in high-production dies, shear blades, forming rolls, broaches and other low-speed cutting tools, gages, and knurling and burnishing tools. It resists heat up to 1000° F. The AISI or SAE Grade D5 steel hardens throughout to Rockwell 64. It is also available in sand castings, forgings, and hot-rolled, annealed bars in rounds to 10 in. and squares to 5 in. Made by **Darwin & Milner, Inc.**, 2345 St. Clair Ave., Cleveland 14, Ohio.

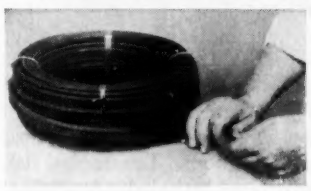
▲ For more details circle NED-761 C9 on enclosed inquiry slip ▲

TOWELS & DUST CLOTHS for use in dustless operations

Operations involving precision electronic and photographic equipment where even small amounts of dust cannot be tolerated are applications for these lint-free wiping towels and napped dust cloths. They are available from industrial launderers as part of the Texel Shop Towel Service. The 18 x 18-in. towels are used to clean lenses and delicate equipment and the 18 x 24-in. napped cloths keep walls, work surfaces, and furniture dust-free. Further information is available from **Industrial Wiping Cloth Co.**, 29-28 41st Ave., Long Island City 1, N. Y.

▲ For more details circle NED-762 C9 on enclosed inquiry slip ▲

OVEN SEAL GASKET made of braided glass fiber



Uniform dimension of Varglas oven seal gasket speeds oven door fitting during assembly since edging and cushion areas remain identical and on a true line without skew. Seal will compensate for warpage or other irregularities. Made from braided Fiberglas, seal will not dry, crack, tear, or ignite and it resists oil, grease, and moisture. Metal-to-metal contact is eliminated by the gasket, promoting soundless operation of doors. Gasketing also has applications in refrigerators, freezers, cold chests, and other products requiring tight, smooth-fitting closure. Made by **Varflex Corp.**, 513 W. Court St., Rome, N. Y.

▲ For more details circle NED-763 C9 on enclosed inquiry slip ▲

NEW
COMPOSITE STAYNEW FILTER CATALOG OFFERED FREE

Now you can refer to this one concise catalog for information on all Dollinger Staynew Filters. It describes applications and shows construction details of each of the following:

- INTAKE FILTERS
- PIPE LINE FILTERS
- LIQUID FILTERS
- AUTOMATIC FILTERS
- DRY PANEL FILTERS
- VISCOUS PANEL FILTERS
- ELECTROSTATIC FILTERS

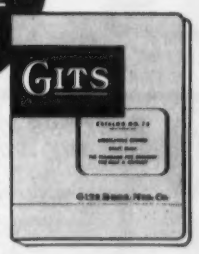
Dollinger also makes all types of special filters . . . consult your local Dollinger representative. But, write today for composite filter catalog. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

PROTECTOMOTOR STAYNEW FILTERS DOLLINGER

Specializing in dry type filters for 35 years

▲ For more details circle NED-764 C9 on enclosed inquiry slip ▲

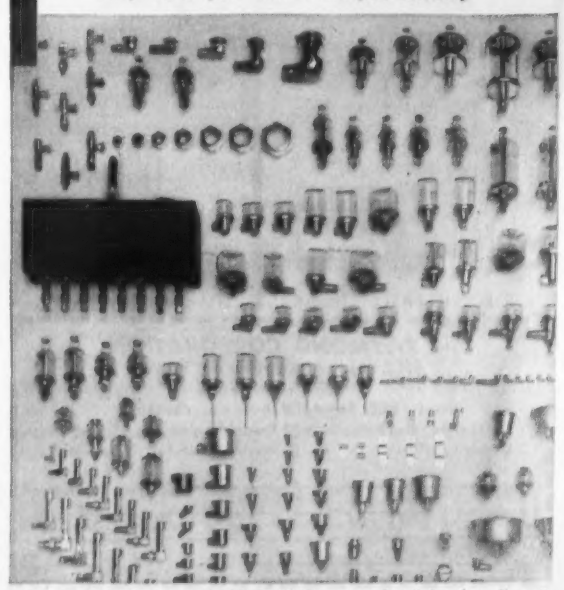
523 GITS OILERS AND GAUGES READY TO SHIP



Largest selection available anywhere. You save time and money, because the one you want is always right in stock. Send for complete Catalog.

GITS BROS. MFG. CO.
1833 S. Kilbourn Ave. Chicago 23, Ill.

Specialists in Lubricating Devices and Shaft Seals for Almost Half-A-Century



▲ For more details circle NED-765 C9 on enclosed inquiry slip ▲

ELCIDE 75™ . . . new way to increase plant efficiency . . . lower costs!

Bacteria, like these, cause emulsion trouble. They enter soluble oil emulsions through the air, water, and plant debris. Feeding on the oil-water mixture, they multiply until they cause odor, corrosion, and final emulsion breakdown. *Now, their damage can be stopped.*

One ounce of Elcide 75 added to each four gallons of standard duty soluble oil emulsion controls these bacteria . . . greatly reduces operating costs. Actual plant tests have shown Elcide 75–treated emulsions last *up to 5½ times longer.* With Elcide 75 you buy less oil concentrate, have less down time for recharging, and cut down the expense of disposal. Labor efficiency is increased while costs decrease. *Write today for more information and actual plant test data.*

PRODUCT SPECIFICATIONS ELCIDE 75

Active Ingredients—Sodium Ethylmercuri Thiosalicylate (Thimerosal) and Sodium *o*-phenylphenate.

PACKAGE	PRICE PER GAL.
1-gallon (4 per case), polyethylene	$8.50
5-gallon, polyethylene	$8.00
55-gallon, stainless steel	$6.50

Sold only through selected distributors.

KEEP COOLANTS FRESH AS A DAISY WITH...

Eli Lilly and Company, Agricultural and Industrial Products Division, Indianapolis 6, Indiana

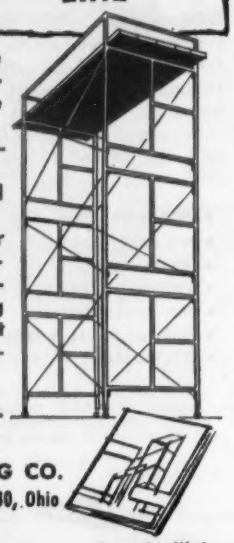
ELCIDE 75

Lilly's brand of bacterial inhibitor for cutting fluids

▲ For more details circle NED-760 C9 on enclosed inquiry slip ▲

WACO SCAFFOLDING

The COMPLETE SCAFFOLDING LINE



Waco . . . the complete line of scaffolding, offers you one-source convenience and service for all scaffolding needs.

Waco scaffolding, with patented job-proven Speedlock is the fastest, most economical scaffolding available.

Check the yellow pages for your on-the-spot Waco Distributor. He stocks light and heavy-duty steel scaffolding, rolling towers, and the accessories that assure you fast, safe, economical maintenance equipment.

Send for complete information.

WACO Dept. N MANUFACTURING CO.
5251 West 130th St. Cleveland 30, Ohio

LICENSEES: Tubular Structures Corp. of America, Los Angeles, California — Armson Iron Works, Windsor, Ontario

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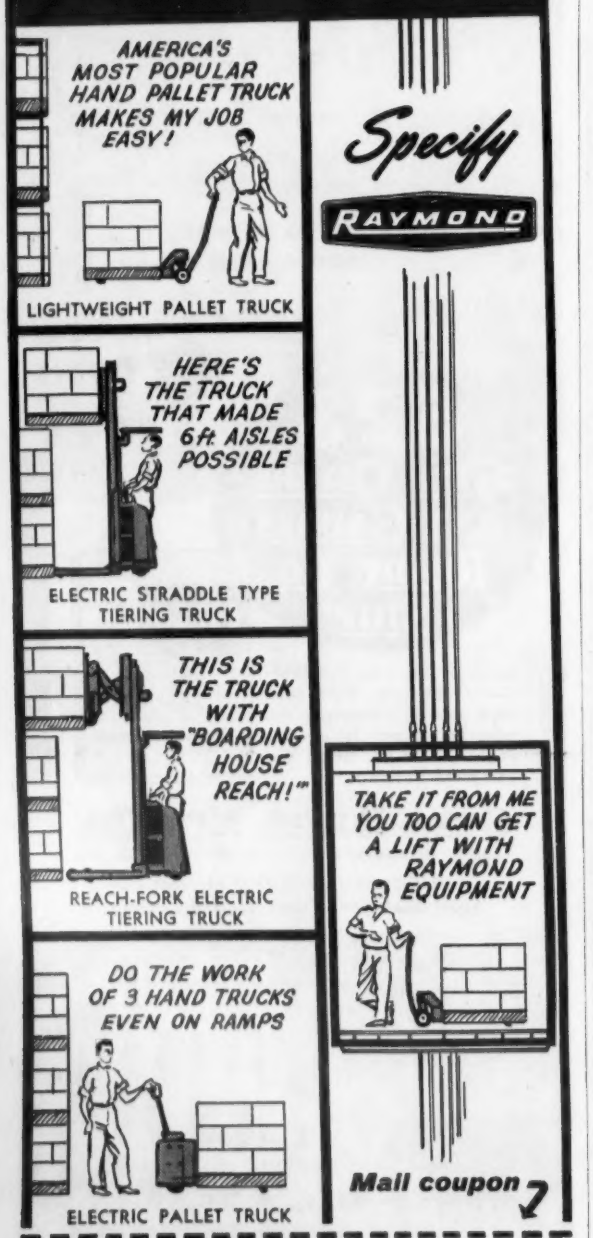
IF IT IS PALLET HANDLING . . .



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Send FREE Raymond bulletins checked:
☐ Lightweight Hand Pallet Truck ☐ Electric Straddle Type Tiering Truck
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NAME TITLE
COMPANY
STREET
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▲ For more details circle NED-767 C9 on enclosed inquiry slip ▲

New Literature and Catalogs

Scale Model Components & Kits

Industrial Models, Inc.—8-page illustrated "Scale Model Components" catalog contains descriptions, prices, and specifications of units for incorporation in model piping systems. Included are such piping components as valves, fittings, pipe supports, and structures. Companion 4-page illustrated booklet contains specifications on "do-it-yourself" model kit for making various types of structures.

▲ For more details circle NED-768 C9 on enclosed inquiry slip ▲

Fasteners of Various Types

Abbott Screw & Mfg. Co.—32-page illustrated Purchasing Agents Guide 107 describes an extensive line of automatic screw machine parts, bolts, hexagon socket set screws, nuts, rivets, screws, Sems, standard fasteners, threaded rods and studs, washers, and stampings available from this company. Many of the fasteners are carried in stock.

▲ For more details circle NED-769 C9 on enclosed inquiry slip ▲

Rubber-Metal Products

Clevite Harris Products, Inc.—Bearings, bushings, couplings, mounts, sleeves, and molded shapes are among the rubber-metal products described in illustrated 12-page catalog. Characteristics of typical mechanically and chemically bonded components are described. Design information is included.

▲ For more details circle NED-770 C9 on enclosed inquiry slip ▲

Toggle Switches

Sargent Electric Corp.—200 models of toggle and trigger switches are listed in 8-page illustrated Catalog S106. Ten of the most popular models are detailed with dimensional outlines, electrical and mechanical specifications, and application data.

▲ For more details circle NED-771 C9 on enclosed inquiry slip ▲

Pearlitic Malleable Castings

An introduction to pearlitic malleable, a relatively new material in the castings field, is furnished by 76-page handbook. Four chapters cover the material, castings, facts and figures for design, and applications. Three charts aid in translating basic design needs into final pearlitic malleable specifications. Ten tables, 19 charts, and 14 illustrations are included. Available upon request to Malleable Research & Development Foundation, Granville 1, Ohio.

▲ For more details circle NED-772 C9 on enclosed inquiry slip ▲

Automatic Batching Systems

Toledo Scale Corp.—Automatic batching systems for many types of batching operations, including concrete, food, glass, or metal, are described and illustrated in 8-page Brochure 2964. Several types of Remocon system are featured with automatic cut-off controls and provisions for remote presetting.

▲ For more details circle NED-773 C9 on enclosed inquiry slip ▲

Industrial Enclosed Switches

Minneapolis-Honeywell Regulator Co., Micro Switch Div.—Details of nine housing types of metal-enclosed switches for industrial uses are presented in 20-page illustrated Catalog 83c. Explosionproof, maintained contact, prewiring, hand operated, and sealed switches are among the 99 listings.

▲ For more details circle NED-774 C9 on enclosed inquiry slip ▲

Indicating Dial Thermometers

American Machine & Metals, Inc., U. S. Gauge Div.—Redesigned Supertherm line of indicating dial thermometers which have a −40 to 1000° F range is subject of illustrated 12-page Catalog 205. Specifications for both direct and remote reading types and details on four types of filling mediums are given.

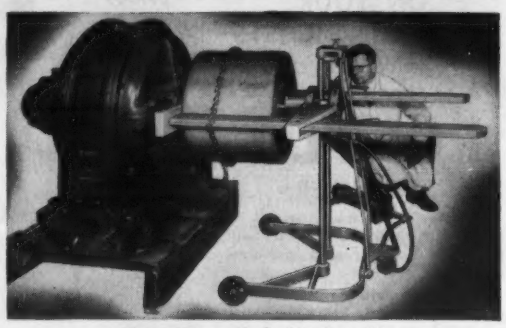
▲ For more details circle NED-775 C9 on enclosed inquiry slip ▲

Brass Rod Mill Products

Titan Metal Mfg. Co.—"For Your Metal Money's Worth" is a revised 24-page pocket-size booklet on brass rod mill products. Weight, size and tolerance tables, specifications, and other technical data are presented for free-cutting brass, commercial bronze, nickel-silver, high silicon brass, manganese bronze, forging rods and shapes, brass wire, and Tru Shaft boat shafting.

▲ For more details circle NED-776 C9 on enclosed inquiry slip ▲

THE QUICK, EASY WAY TO REMOVE AN OBJECT FROM A SHAFT!



This Powerful, Hydraulic

PULLEY PULLER

For Removing Pulleys, Wheels, Gears, Couplings, Sheaves, etc.

One man can do it in minutes — even if objects are stuck fast. No crowbars, sledges, or torches. No damage to equipment. Puller is adjustable — easy to move — rugged. Hundreds being used in industry.

- 5-ton size on wheels $122.00
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F.O.B. Factory, New Quicklink chain and set of ten ram adaptors at slight additional cost.
Write for complete information Catalog E

INDUSTRIAL ENGINEERING EQUIPMENT CO.
122-124 E. 4th St. Davenport, Iowa

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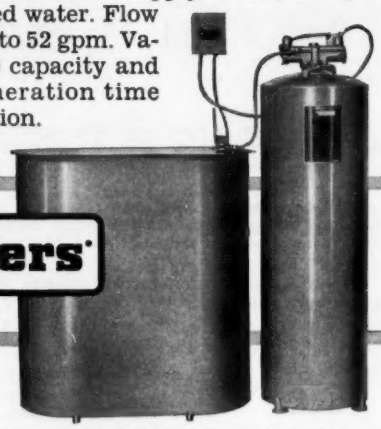
Fully Automatic Myers water softeners

to fulfill your in-plant requirements for a continuous supply of soft, clean, filtered water. Flow rates to 52 gpm. Variable capacity and regeneration time selection.



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Available Immediately For Prompt Shipment.
For detailed specifications, write:

The F. E. Myers & Bro. Co.
8902 ORANGE STREET, ASHLAND, OHIO

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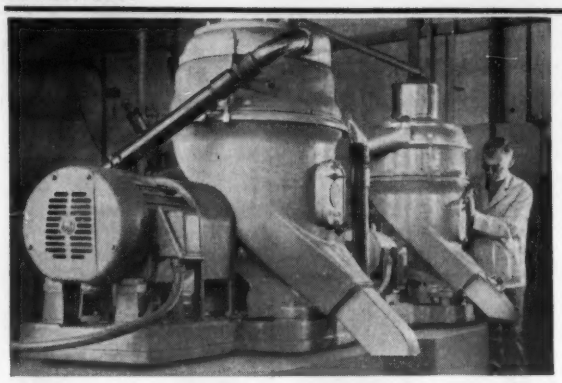
by FAIRFIELD

If you use gears in the products you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities.

FAIRFIELD MANUFACTURING CO.

2335 S. Concord Rd. Lafayette, Indiana

▲ For more details circle NED-779 C9 on enclosed inquiry slip ▲



Continuous centrifuge desludges itself

You don't even have to shut down for removal of accumulated solids with a Titan Superjector Centrifuge. You can make your separation process an economical part of a continuous flow operation.

Accumulated solids are discharged at the touch of a button, or automatically, while the centrifuge is operating at full speed—with a separating power up to 7800Gs.

The result is increased output of a more uniform product with minimum maintenance time, with lowered horsepower and water consumption, and less equipment wear. Disassembly for cleaning, lubrication, and inspection need be done but once a month.

For complete details of the Titan Superjector, write for Bulletin 946.

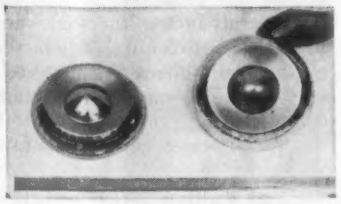
PFAUDLER PERMUTIT INC.
Pfaudler Div. • Dept. NED39 Rochester 3, N. Y.

75 YEARS CREATING FOR TOMORROW Pfaudler

▲ For more details circle NED-780 C9 on enclosed inquiry slip ▲

New Processes & Materials

METAL FINISHING TECHNIQUE gives frosty appearance to parts



A frosty appearance can be given any size, shape, type, or gage of shiny stainless steel part with the Fro-Zon finishing technique. Finish is being used on stainless auto trim sections and is achieved by a type of semiblasting which produces the frosted look by forming tiny mounds on the metal surface. Finish is very lightly done and does not penetrate the surface of the metal. All kinds of patterns, lettering, bossed, deposed, flat, or contoured surface can be handled by the process. Surface treatment is unaffected by heat, cold, or weathering. Developed by **Stamping Service, Inc.**, 5500 Davison at Duke, Detroit, Mich.

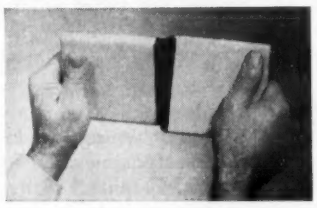
▲ For more details circle NED-783 C9 on enclosed inquiry slip ▲

PROTECTIVE COATING for electronic components

Usable on electronic components subject to excessive handling and/or twisting, Type 2B13 Humiseal is a two-part air-drying protective coating. Applied by dip, spray, or brush, it has a 24-hr pot life, infinite shelf life, and is recommended for temperatures in range of −60 to 130° C. Its humidity cycle meets MIL-STD-202A specification. Developed by **Columbia Technical Corp.**, 16-02 31st Ave., Woodside 77, N. Y.

▲ For more details circle NED-784 C9 on enclosed inquiry slip ▲

WEATHERPROOF SEALANTS for wood, metal, glass, and masonry

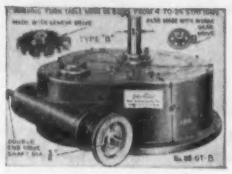


Usable in aircraft, automotive, marine, construction, and other industries, Resiweld sealants have high bonding strength and are based on Thiokol polysulphide rubber. They adhere firmly to metal, glass, stone, concrete, and wood and are available in black, tan, and aluminum. The two-component type material mixes readily and is applied in a pasty nonflowing consistency by gun, spatula, or putty knife. It sets to a permanently firm, flexible, nontacky synthetic rubber which will not tear or break loose, even under vibration, shock, or temperature cycling. It is unaffected by water, sunlight, oxidation, corrosives, oils, solvents, and salt spray. Made by **H. B. Fuller Co.**, 255 Eagle St., St. Paul 2, Minn.

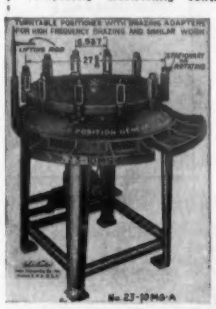
▲ For more details circle NED-785 C9 on enclosed inquiry slip ▲

EISLER
FOR 39 YEARS
We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES
- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. Motorized or hand operated.



Eisler Indexing Turntables are completely electrically controlled



AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J
Charles Eisler, Jr., President

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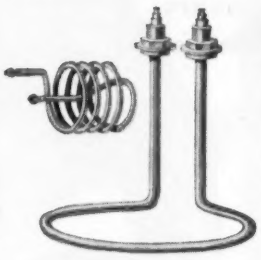
HEATING ELEMENTS
Designed to *Your* Specifications

TUBULAR HEATERS
for Tanks, Kettles, Baths, Extruders

STRIP HEATERS
for Ovens, Dryers, Process Equipment

CARTRIDGE HEATERS
for Dies, Molds, Platens, Defrosting



OIL & WATER IMMERSION HEATERS
The Complete Line of TRENT Metal Sheathed Heating Elements Assures On-the-Spot Controlled Heat to Your Most Exacting Requirements.

WRITE FOR BULLETIN 74-TE.

TRENT INC.
Electrically Heated Industrial Equipment
251 LEVERINGTON AVE., PHILADELPHIA 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

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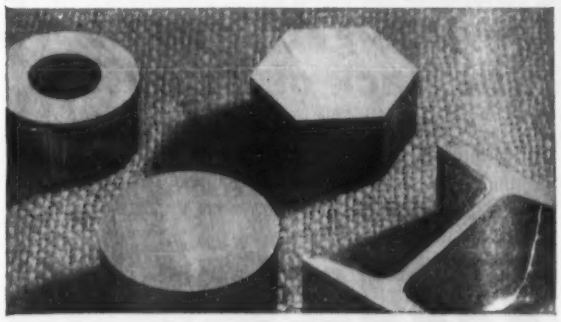
does your ear hear profits . . . or losses?

when you listen to your saws cutting?

If the sounds of cut-off saws are all alike to you, you may be on the wrong wave length for profits.

For today the difference in cutting sounds can mean PROFITS for you.

When you hear the zip of a Wallace Modular streaking through a piece of metal, you're listening to the welcome sound of greater efficiency, slashing your cutting costs. For this machine gives you . . .



Machined-like cuts . . . like those above . . . in seconds each! You get not one, but TWO CLEAN ENDS. Angles, bars, pipes, structurals and special shapes cut with O.K. end finish.

You will want information that will show you how to turn that sound into real profits! Send for your *free* 36-page booklet on Wallace Cut-Machining.

DO IT NOW

WALLACE SUPPLIES MFG. CO.
CUTTING MACHINES • BENDING MACHINES • FLARING MACHINES
1312 W. Wolfram Street • Chicago 13 Illinois

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High Efficiency
DUST COLLECTION
at Low Cost

- Greater gas flow per tube
- Fewer tubes per collector
- Flexible designs
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Result: Lower total cost for a given capacity and efficiency

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Main Office and Plant: Bound Brook, N. J.
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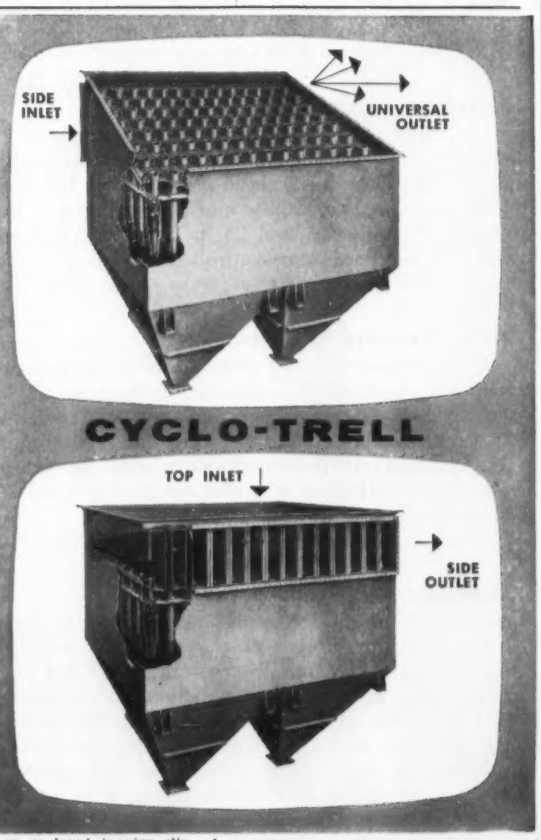
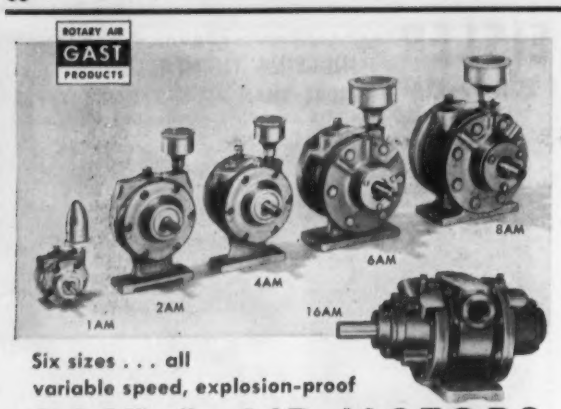


▲ For more details circle NED-782 C9 on enclosed inquiry slip ▲



Six sizes . . . all variable speed, explosion-proof

GAST AIR MOTORS

Need compact, low cost power? For plant use and original equipment applications, Gast rotary-vane Air Motors offer these distinct advantages:

1. Explosion-proof power. No danger!
2. Low initial cost per rated h.p.
3. Variable speed with valve control.
4. Can't burn out from overloads.
5. Vanes take up their own wear.
6. Reversible rotation (opt.) 5 sizes.
7. Very compact — light in weight.
8. Top-quality ball-bearing design.

TYPICAL PERFORMANCE

Model No.	H.P. at 90 PSI 2000 RPM	Weight lbs.
1AM	0.13	1½
2AM	0.57	5½
4AM	1.1	8
6AM	2.0	17
8AM	4.0	25
16AM	7.0	65

Gast Manufacturing Corp. *Write for Bulletins — specify models!*
P.O. Box 117 R
Benton Harbor, Mich.

GAST ROTARY
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
"Air may be your answer!"

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* Removing chips, shavings, filings, and airborne debris that clog machinery, distort tolerances, mar product finishes.
* Controlling mists and fogs in wet machining operations.
* Recovering valuable dusts, coolants, heated air.
* Protecting machinery investments with preventive maintenance.

FREE...latest specs and data on TORIT Dust Collectors for handling these and other air pollution problems. TORIT: the high efficiency line with savings up to 1/2!

* Reducing absenteeism with improved health and safety precautions.

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Walnut & Exchange Sts., St. Paul 2, Minn., Dept. 214

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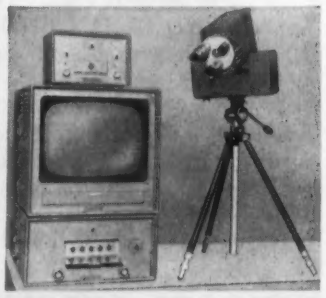
...behind a machine, up on the third floor, in hazardous or hitherto impossible situations, underneath a locomotive, inside a combustion chamber, up on a roof, at a guard gate. These and many other problems can be solved with the versatile new

ITT **Closed Circuit TV Systems**

Feature a new improved vidicon camera with an entirely electronic light compensator (no moving parts), monitor, control unit, special housings. Cost is surprisingly low. Systems tailored to requirements. Bulletins and other data on request.



Industrial Products Division
INTERNATIONAL TELEPHONE AND TELEGRAPH CORP.
15191 Bledsoe Street, San Fernando, California — EMpire 7-6161

▲ For more details circle NED-790 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Forgings & Forging Facilities

Park Drop Forge Co.—Examples of the diverse types of forgings produced by this company and the facilities for producing them are described and illustrated in 24-page brochure. Characteristics of forgings are outlined. Problems encountered in forging design in various industry applications and how they were solved comprise one section.

▲ For more details circle NED-791 C9 on enclosed inquiry slip ▲

Thread Rolling Attachments

Landis Machine Co.—30-page revised operator's instruction and repair parts Bulletin 1-400-2 relative to Lanroll thread rolling attachments now includes dimension charts of each diameter and pitch, maximum bar and hex bar sizes, and penetration rates. Data cover bolt, straight pipe, and taper pipe applications for the five sizes of attachments. Section shows application of attachments to automatic screw machines and lathes.

▲ For more details circle NED-792 C9 on enclosed inquiry slip ▲

Casters & Wheels

Hamilton Caster & Mfg. Co.—Swivel and rigid casters shown in 16-page Catalog 130 are available with Moldon rubber, molded plastic, semisteel, composition rubber, forged steel, and pneumatic rubber tired wheels. Swivel locks, bearing seals, and thread guards are among optional accessories. Over 500 wheel variations are listed.

▲ For more details circle NED-793 C9 on enclosed inquiry slip ▲

Rotary Cutting Tools

Rico Tool Co.—Line of rotary cutting tools catalogued in Brochure 101 includes solid carbide end mills, die-sinking cutters, key seat cutters, grinding burrs, chucking reamers, carbide twist drills, slitting saws, counter sinks, rotary cutters, spade drill, boring tools, and miniature lab mills. All cutters are hand ground and available from stock.

▲ For more details circle NED-794 C9 on enclosed inquiry slip ▲

Needle Thrust Bearings

Torrington Co.—Extensive laboratory testing has enabled this company to increase basic dynamic capacity ratings of its needle thrust bearings. Catalog 759 lists the complete line of bearings in bore sizes from ⅜ to 3 in. It also discusses installation, lubrication, and load capacity of these bearings as well as design and installation of thrust races used with them.

▲ For more details circle NED-795 C9 on enclosed inquiry slip ▲

Internal Gear Rotary Pumps

Deming Co.—How the general-purpose internal gear rotary pump works and how it is constructed are discussed in 4-page Bulletin 1535 along with applications. One page illustrates eight of the various types of pumps and reviews the operation of each. Capacities range from 2 to 450 gpm at standard operating speeds of 1800 to 260 rpm.

▲ For more details circle NED-796 C9 on enclosed inquiry slip ▲

Immersion Heaters

N. J. Thermex Co.—Therm-X-Red immersion heaters in steel, stainless steel, and translucent fused quartz models are introduced in 6-page folder. Heaters are rated from 1000 to 5000 w and are available in heated lengths of 6, 12, 18, and 24 in. Standard, thermostat, and remote thermostat controlled models are offered.

▲ For more details circle NED-797 C9 on enclosed inquiry slip ▲

Drills, Reamers & Cutters

Wendt-Sonis Co.—72-page Catalog 59 presents a line of reamers, drills, end mills, milling cutters, counterbores, single point tools, and blanks and inserts. Illustrated section offers grinding and operating suggestions, and provides a selection table for determining correct carbide grades and machining speeds. Production and plant facilities are pictured.

▲ For more details circle NED-798 C9 on enclosed inquiry slip ▲

Aluminum Mill Products

Kaiser Aluminum & Chemical Sales, Inc.—General information, description of characteristics, and typical properties are given in 24-page Booklet GI-4 on aluminum mill products. These include sheet, plate, foil, rod, bar, wire, extrusions, tubing, forgings, billet, and pig. Roofing and siding, ShadeScreen, process pipe, mining and construction pipe, irrigation tubing, bus conductor, building wire, machine tool wire, and welding cable are also covered.

▲ For more details circle NED-799 C9 on enclosed inquiry slip ▲

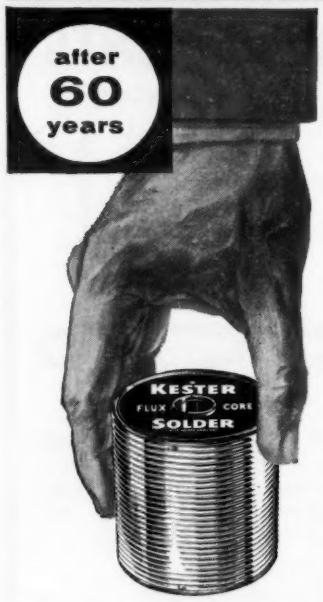
FOR COST-CUTTING SPEED AND ACCURACY

All of the precision accessories shown . . . and more, too . . . are immediately available in a wide range of standard sizes or in special sizes to specifications. Complete line of layout plates, floor plates, cast iron and black granite surface plates offered, too. Send for your FREE catalog today.

MACHINE PRODUCTS *Corporation*
6771 E. McNICHOLS ROAD • DETROIT 12, MICHIGAN

▲ For more details circle NED-800 C9 on enclosed inquiry slip ▲

after 60 years



Industry votes a solid "YES!"

Only virgin metals, precision manufacture, uniform consistency, rigid inspection . . . these are some of the reasons why KESTER SOLDER today enjoys unanimous acceptance in all kinds of industry. Insist on Kester . . . you'll have the best in Solder!

SEND for free literature and complete information.

Kester Solder
COMPANY
4249 Wrightwood Ave., Chicago 39, Ill.
Newark 5, N. J. • Brantford, Canada
Over 60 Years' Experience in Solder and Flux Manufacturing

▲ For more details circle NED-801 C9 on enclosed inquiry slip ▲

New T&B PT66-M Sta-Kon® wire joints

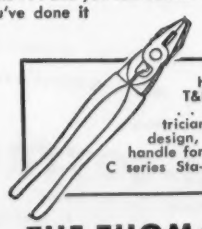
Pat. Pending

with *"See Through"* insulating caps— the fastest, neatest, most permanent way to do the job!

Easy as 1-2-3

1. Twist wires and insert into heavy-gauge bronze body
2. Apply staking pressure, then trim off excess wire.
3. Screw on transparent plastic insulating cap — the job is done . . . *and* you can SEE how you've done it

- small compact size
- brightly colored transparent cap can't vibrate loose . . . permits visual inspection of joint
- wide range — solid or stranded combinations up to 3-#12 AWG Max.



Heres the tool to use . . . T&B's new Sta-Kon *plus* Pliers . . . combines standard electrician's "side cutters" with a new design, wide-range installing die in handle for PT66-M and other A, B, and C series Sta-Kon connectors.

T 53

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street • Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P. Q., Canada

▲ For more details circle NED-802 C9 on enclosed inquiry slip ▲

NYLON KOOLSHIELD

FOSTORIA LOCALITE

Industry's Favorite Cost-Saving Seeing Tool

Cool

100-WATT LAMP ILLUMINATION

A marvelous accessory that snaps over reflector for positive coolness to the touch when using 100-watt lamp.

$1.02 ea. in Std. Pkg. of 4. Fits all old and new model Localite half shade reflectors.

★ Equipped with marvelous new collar-disc arm joints

MODEL 55-BH-701 $8.03 EACH in Std. Pkg. of 4.

Finest Seeing Tools Ever Designed

FOR MACHINE TOOLS, ASSEMBLY, INSPECTION

Millions in use for fast, accurate, safe seeing. Frictional arm and collar-disc joints give flexibility of a thousand positions to direct light exactly as wanted. Rugged construction, heavy duty socket, Levolier switch, universal base.

WRITE for complete catalog of Localite Models for every industrial need.

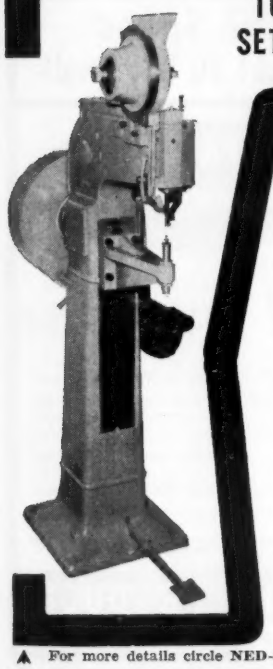
THE FOSTORIA PRESSED STEEL CORPORATION, FOSTORIA, OHIO

Localites are available through wholesalers everywhere.

LOCALITE fostoria for Light ON the Job

▲ For more details circle NED-803 C9 on enclosed inquiry slip ▲

Odd shapes are no problem for the New TOWNSEND MODEL 75 TUBULAR RIVET SETTING MACHINE



Skillfully designed tooling gives complete versatility to the new Townsend Model 75 Tubular Rivet Setting Machine. A variety of specialized tooling is available to equip the Townsend machines for any size and shape of work.

If you wish to enjoy the economies of fastening with tubular rivets, write for complete information on the versatile Model 75 Setting Machine and the complete line of Townsend tubular rivets. Townsend Company, P. O. Box 237-G, New Brighton, Pa.

▲ For more details circle NED-804 C9 on enclosed inquiry slip ▲

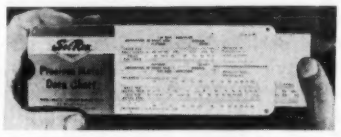
New Processes & Materials

ANTISEIZE SEALANT stops leaks in coarse fittings

Spiral leaks in large diameter threads and coarse fittings, as well as leaks in welded flanges that have become distorted, can be stopped with No. 250 F Led-Plate antiseize sealing compound. It has antiseize properties equal to that of No. 250 noncorrosive, nonhardening lead compound. Sealant has a −350 to 2987° F temperature range and withstands up to 50,000 psi hydraulic pressures. Made by **Armite Laboratories**, 6609 Broad St., Los Angeles 1, Calif.

▲ For more details circle NED-806 C9 on enclosed inquiry slip ▲

SLIDE CHART tells metals plating cost



By setting this slide chart to the price paid per troy ounce or gram, the cost per unit area of plating gold, platinum, rhodium, silver, and other precious metal formulations can be read instantly. Chart also tells cathode efficiency date, milligrams per square inch, and grams per square foot of particular metals for 0.0001 in. deposits; current densities and plating time required for nine different precious metal plating formulations; and corresponding thicknesses in millionths of an inch of various precious metals. Price is $1. Offered by **Sel-Rex Corp.**, 75 River Rd., Nutley 10, N. J.

▲ For more details circle NED-807 C9 on enclosed inquiry slip ▲

FLEXIBLE FILM PACKAGING duplicates shape of package, product

Cellophane, polyethylene, Pliofilm, glassine, ILT, Saran, and laminated combinations of foil are types of thermoplastic materials which can be used with Facsimile Packaging. Shapes of any miniature bottle, box, tube, trade mark, or promotional design can be duplicated. Liquids, solids, or powders can be enclosed in a Facsimile package. Die cutting and heat sealing technique minimizes the size and weight of individual packages, thus affecting the cost of packaging, handling, and distribution. Developed by **Ivers-Lee Co.**, 215 Central Ave., Newark, N. J.

▲ For more details circle NED-808 C9 on enclosed inquiry slip ▲

SLASH washing costs

with John BEAN AQUABLAST

HIGH PRESSURE WASHERS

IS YOUR CLEANING PROBLEM ONE OF THESE...OR SIMILAR?

- Processing tanks
- Metal rust or scale
- Heat exchanger tubes
- Boxcar interiors
- Cement trucks
- Animal carcasses
- Food plant floors
- Chemical residues

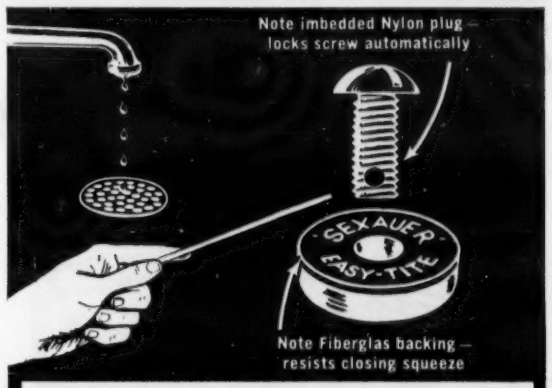
One man with AQUABLAST equals a crew of men using ordinary water pressures. The important difference is that water, discharged at 600 lbs. pressure from an Aquablast gun, cuts through caked dirt, hardened deposits, gummy residues or accumulated grime like magic! John Bean Aquablast Washers are complete, motor driven pumping units for use with 1 to 3 guns.

Send information request form — today!

John BEAN Division of Food Machinery and Chemical Corporation

INDUSTRIAL SALES DEPT. LANSING 4, MICHIGAN SAN JOSE 1, CALIFORNIA

▲ For more details circle NED-809 C9 on enclosed inquiry slip ▲



NEW WAY TO

Prevent Faucet Leaks!

★ 9 out of 10 washers are fastened with screws that are TOO LONG or SHORT. The screws quickly loosen; the loosened washers are destroyed thru grind and squeeze of opening and closing faucets.

34 years of research uncovers new solution

★ Now, NEW (Patented) 'Sexauer' SELF-LOCK Monel screws, with an imbedded expanding NYLON PLUG, lock at the required depth AUTOMATICALLY, hold washers FIRMLY! Made of rustproof, non-corroding Monel, heads don't twist off, screw slots don't distort. They are easily removed when necessary, can be re-used repeatedly.

★ Used with NEW 'Sexauer' EASY-TITE faucet washers, they make a combination that outlasts past faucet repairs "6-to-1"! EASY-TITES are made of super-tough, pliable du Pont compound (neither rubber nor fibre) and reinforced, like a tire, with a vulcanized layer of Fiberglas. They resist distortion and splitting from shut-off grind and squeeze.

Hidden costs of faucet leaks!

Faucet leaks are costly! As authenticated by Hackensack, N. J. Water Co. and American Gas Association, stopping just ONE PIN-HOLE SIZE (1/32") LEAK can reduce water waste 8,000 gal. quarterly. If a HOT WATER FAUCET LEAK, water and fuel savings JUMP to over $7.58 QUARTERLY—plus additional savings on MATERIALS, LABOR and costly FIXTURE REPLACEMENTS!

NEW SELF-LOCK screws and EASY-TITE faucet washers are just TWO of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW 126 page Catalog "H" available. He will gladly consult with you regarding a SURVEY of your plumbing fixtures to determine correct repair parts required and establish reasonable stock levels that avoid both overstocking and shortages—thus providing for efficient stock arrangement and control—all without obligation. WRITE TODAY!

J. A. Sexauer Mfg. Co., Inc., Dept. AU-39
2503-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your NEW, 126 page catalog "H."*

My Name_____ Title_____

Company or Institution_____

City_____ Zone_____ State_____

SEXAUER

WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle NED-810 C9 on enclosed inquiry slip ▲

Here's how one Fork Truck can do the work of two

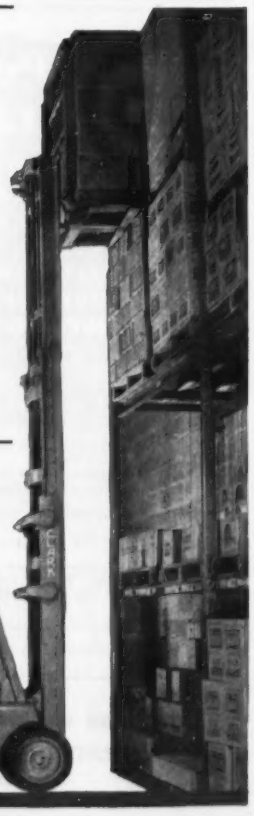
With Clark's New TRIPLE STAGE UPRIGHT

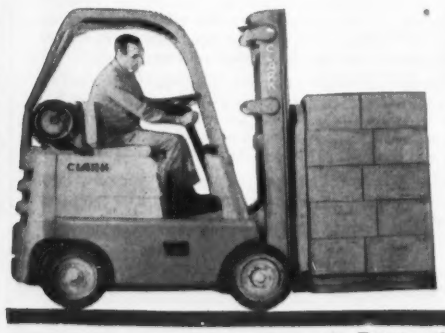
One truck equipped with a Triple Stage Upright will do the work of two trucks . . . with uprights down, your *Clarklift** drives directly into rail cars or highway trucks . . . yet, when the three sections of the Triple Stage Upright are extended—you can stack as high as 18 feet.

The Triple Stage Upright was conceived, designed and developed by Clark Equipment Company and is available on Clark machines in 11 sizes with capacities of 3 to 5 thousand pounds.

For details and specifications simply circle the reader service card or write us direct.

*Registered in U. S. Patent Office





CLARK® EQUIPMENT

Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 21, Michigan

▲ For more details circle NED-805 C9 on enclosed inquiry slip ▲

Use MOTO-TRUC

Moto-Truc pallet trucks are built to handle loads in tight places where larger trucks bog down. The standard model — PAL is only 28" longer than the load while the special short-coupled model — PAL-SC is only 24" plus load.

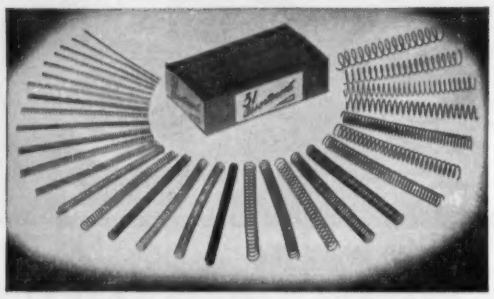
Able to turn in their own length, these tough little walkies are ideal for handling in freight cars, trucks, elevators, narrow warehouse aisles and crowded production areas.

WRITE TODAY... For full information on Moto-Truc pallet trucks.

The MOTO-TRUC Co.
1961 E. 59th STREET • CLEVELAND 3, OHIO

▲ For more details circle NED-811 C9 on enclosed inquiry slip ▲

Stock SPRING assortments



Our #31 (compression) Spring Assortment folders are now available and yours for the asking. Our #28 (extension) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work. To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

We also manufacture to special order.

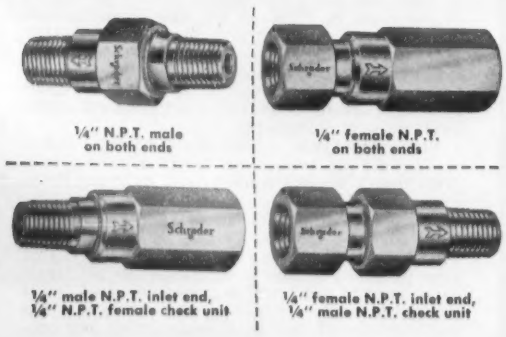
Send samples or prints for quotation.

Find Your Nearest Agent In The 'Yellow Pages'

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

▲ For more details circle NED-812 C9 on enclosed inquiry slip ▲

NEW AIR CHECK VALVES



¼" N.P.T. male on both ends

¼" female N.P.T. on both ends

¼" male N.P.T. inlet end, ¼" N.P.T. female check unit

¼" female N.P.T. inlet end, ¼" male N.P.T. check unit

... have spring loaded check to assure positive sealing action at low pressures

... extremely compact, relative to large flow capacity

Permit air flow in one direction and check air flow in opposite direction. Long, trouble free service assured by generous seating area between metal check and oil resistant washer. All metal parts are of brass, or heavily plated for corrosion resistance.

Informative literature available on these and hundreds of other Schrader Air Products. Direct all your questions on air control to Schrader, headquarters for up-to-the-minute information.

Schrader®
A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

▲ For more details circle NED-813 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Brass Mill Product Terminology

American Brass Co.—The complex terminology applied to brass mill products is defined in dictionary style in 24-page booklet "Copper & Copper Alloy Metalexicon." Booklet is illustrated and includes such terms as deoxidized, flat wire, patent levelings, season cracking, resquared metal, elongation, yield strength, and many others.

▲ For more details circle NED-814 C9 on enclosed inquiry slip ▲

High Strength Aluminum Alloy

Navan Products, Inc.—Design considerations, properties, typical casting specifications, and heat treatment of TENS-50 high strength aluminum casting alloy are appraised in 12-page brochure. This free-flowing alloy can be used to cast complicated designs by both sand and permanent mold methods, with minimum rejection.

▲ For more details circle NED-815 C9 on enclosed inquiry slip ▲

Flow Rate Transmitter

Brooks Rotameter Co.—Unusual design features of the Brooks MPT motion position transmitter are described in building-block style in 12-page Bulletin 170. Standardization of these flow instruments reduces spare part inventories without sacrificing maximum flexibility of flow range coverage. Indicating, alarm, pneumatic and electric transmitting, and integrating units are covered.

▲ For more details circle NED-816 C9 on enclosed inquiry slip ▲

Making Machine Repair Parts

La Salle Steel Co.—24-page booklet tells "How to Make Your Own Machine and Repair Parts Quicker and Easier." It covers care and trouble-shooting of machines and equipment, machining and welding techniques, and contains drill hole tolerances and a grinding limits chart. Case histories point up benefits obtained by using Stressproof high strength, all-purpose steel bar.

▲ For more details circle NED-817 C9 on enclosed inquiry slip ▲

Solenoid Valves

Hunt Valve Co.—Only 1 in. thick by 3 in. wide, Slim Line control valves mount conveniently on any machine and can be manifolded into compact control centers. Three and four-way solenoid, hand lever, and ball actuated types in ⅛ and ¼-in. sizes are subject of 4-page Bulletin 581.

▲ For more details circle NED-818 C9 on enclosed inquiry slip ▲

Strain Gage Instruments

Baldwin-Lima-Hamilton Corp., Electronics & Instrumentation Div.—Over 250 types of SR-4 bonded filament resistance strain gages are listed in Specification and Price List No. 4310. Electrical and physical specifications for each type are provided, and a separate section presents data to guide selection of gages for various uses.

▲ For more details circle NED-819 C9 on enclosed inquiry slip ▲

Positive 2-way radio control:

- PLANT SECURITY
- FORK LIFT TRUCKS
- MAINTENANCE VEHICLES
- YARD TRUCKS
- MATERIALS HANDLING
- INVENTORY REPORTING
- PERSONNEL ON FOOT

Mail coupon below for information on RCA 2-Way Radio that's right for the job.

RADIO CORPORATION OF AMERICA
Communications Division
Dept. R329, Building 15-1, Camden, N. J.
In Canada: RCA VICTOR Company Limited, Montreal

Please send complete information on RCA 2-Way Radio equipment for use in _____

☐ Free Booklet "Positive Control of Inventory Through 2-Way Radio Reporting"

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

RADIO CORPORATION of AMERICA
COMMUNICATIONS DIVISION
CAMDEN, N. J.

▲ For more details circle NED-820 C9 on enclosed inquiry slip ▲

LIGHT WHEN YOU NEED IT

... automatically with F-P controls

Fisher-Pierce photoelectric lighting controls automatically turn on lights in parking lots, railroad yards, docks, loading areas, storage and security areas—whenever daylight drops to preset turn-on setting—regardless of weather or time of day. Turn-on setting is adjustable, never needs re-setting; various models available with turn-on from 1 to 500 f.c. Easy to install, housed in weatherproof watt-hour meter case. Reliability and ruggedness proven by ten years of use.

Standard Model 63300C switches lamp loads up to 3000 watts, special model switches 6000 watts; SPST, SPDT or DPST power contactors. For 105-130 or 210-250V, 50/60 cycles. For larger loads, control can be used with low-cost F-P Type 250A Multiple Relays. Bulletin on request. Write The Fisher-Pierce Co., 44 Pearl Street, So. Braintree 85, Mass.

FISHER FP PIERCE
PHOTOELECTRIC LIGHTING CONTROLS
AN AFFILIATE OF SIGMA INSTRUMENTS, INC.

▲ For more details circle NED-821 C9 on enclosed inquiry slip ▲

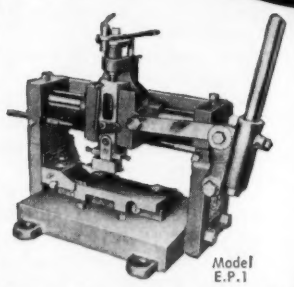
Indented Marking of Round & Bar Metal Stock

Production Line Speed! New Low Cost! 10 Day Trial!

SEND YOUR METAL PART FOR SAMPLE MARKING

MACHINE AVAILABLE ON 10 DAY TRIAL.

PRYOR Bench Marking Machine



Model E.P.1

An inexpensive hand operated production machine designed for quality marking of 600 or more units per hour. Quick simple adjustment for round or flat stock. Clear even impression at all times. Depth of impression is adjustable for close tolerances and can be locked for quantity runs.

Pryor marking machines and numbering heads are available for your specific need. Advise us of your problem.

PRYOR MARKING PRODUCTS
434 SOUTH WABASH AVE. DEPT. N CHICAGO 5, ILL.

▲ For more details circle NED-822 C9 on enclosed inquiry slip ▲

Fluffy powders are difficult to handle and convey. Their light weight offers little friction for conveying.

The Cleveland Vibrator Company has developed a feeder that will successfully convey many of these powders. The feeder is either tubular or square in shape, with the interior divided into compartments. These small sections give greater friction surface for transporting the powder.

Conveying is accomplished by vibration, which is initiated by a pneumatically operated, vibrator drive mechanism. The feeder itself is mounted on, or suspended from flexible supports, either rubber or springs. The supports do not supplement the vibrating action, but only insulate the surrounding structure from vibration. As a result, tuning the feeder is unnecessary.

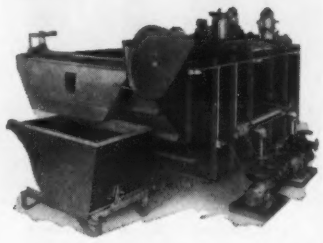
The Cleveland Feeder requires no special mounting and is free from bearings, couplings, and pillow blocks. The only moving part is the air piston in the drive mechanism. Installation costs are slashed and operating costs are considerably lower.

Write for free literature today. A complete description of your requirements will bring a prompt quotation.

THE CLEVELAND VIBRATOR CO.
K3-2744 Clinton Avenue - Cleveland 10, Ohio

▲ For more details circle NED-823 C9 on enclosed inquiry slip ▲

FLOTATION UNIT FOR METAL WORKING OPERATIONS



By achieving continuous, fully automatic clarification of water soluble oil coolants, flotation units increase productivity of machine tools — *completely eliminate down time* due to failure of coolant supply and need for sump cleaning. Propelled by gravity, contaminated machine tool coolant flows to tank and is transferred to flotation cell for aeration by rotor-stator. Waste solids are held in suspension by froth and skimmed off. Sludge is automatically removed in near dry form by a built-in sludge collector.

Clarification of liquids is achieved mechanically without screens, filter-aid powders or disposable media such as cloths, bags or papers. *Individual motor pumps are eliminated, life of coolant prolonged indefinitely, bacteria growth controlled, housekeeping made simpler and more efficient.* Standard flotation units available for flow rates from 40 to 1500 g.p.m. Central flotation systems engineered to serve large numbers of machine tools. Send for Bulletin FB-102 and case histories.

U. S. Hoffman Machinery Corp., Industrial Filtration Division, Thompson Road Plant #1, Syracuse, N. Y.

▲ For more details circle NED-824 C9 on enclosed inquiry slip ▲

THIS GROOVE GAGE IS

PROVEN RELIABLE

The preferred gage for checking "O" Ring and Tru-arc ring grooves. ● Three fully adjustable models cover .373"-6.00" ● .0005" grads. ● Three-model combination kit available. ● Send for Bulletin.

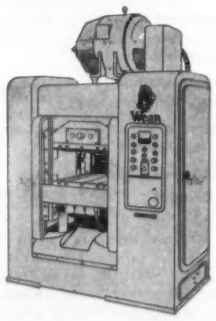
FEDERAL PRODUCTS CORPORATION
9173 Eddy Street, Providence 1, Rhode Island

Ask FEDERAL First
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-825 C9 on enclosed inquiry slip ▲

if you produce
STAMPINGS
you should know about the
WEAN "FLYING PRESS"

- Up to 600 spm
- Extends die life
- Reduces die maintenance
- Cuts set-up time
- Pays for itself fast



Case histories prove that the Wean "Flying Press" increases profits, cuts maintenance and labor charges on quantity stamping production. Get full information today on this new concept of metal-working press design.

GET FREE BOOKLET TODAY!

WEAN EQUIPMENT CORPORATION
Cleveland 17, Ohio

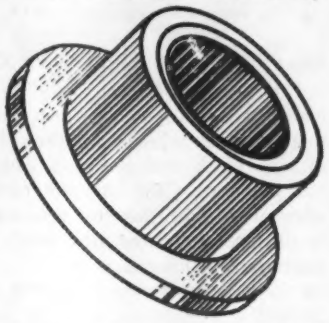
WEAN

▲ For more details circle NED-826 C9 on enclosed inquiry slip ▲

New Processes & Materials

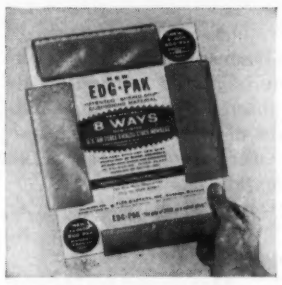
BABBITT LINED BUSHINGS in ½ to 20-in. ID sizes

Dense, nonporous linings of all babbitt alloys can be centrifugally cast in customer bearing shells, or supplied in complete nonferrous bearing assemblies by this company. Bushings are made to tolerances of ±0.0002 in. and in any length up to 16 in. with inside diameters from ½ to 20 in. Babbitt is physically and chemically bonded to the backing material. Babbitted bushings are suitable for extreme temperature, high pressure applications. Made by **Bronze Bearings Inc.**, 340-344 North Ave. E., Cranford, N. J.



▲ For more details circle NED-827 C9 on enclosed inquiry slip ▲

EDGE CUSHIONING MATERIAL protects edges, nesting surfaces



Protection of critical product edges and surfaces of nested pieces, is provided by Edg-Pak spring-grip cushioning material. Typical current uses include protection for leading and trailing wing edges, the edges of nose cones and rotor blades, aluminum sheeting and canopy frame edges, nesting auto fenders and other body panels, and protection of packages from steel strapping damage. Free sample card shows eight ways Edg-Pak can be used and is complete with 2-in. and 1¼-in. wide strips of the cushioning material in several of the new inner liners and outer covers. Made by **Flex-O-Lators, Inc.**, Edg-Pak Div., Carthage, Mo.

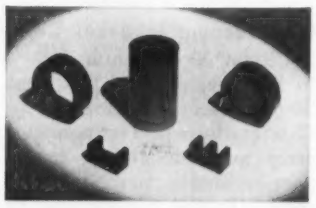
▲ For more details circle NED-828 C9 on enclosed inquiry slip ▲

PHOTO-DRAWING TECHNIQUE drawings made on plastic film photo

More effective use of engineering drawings is made possible by Photoneering, a process that combines photography and drawing. Process involves taking a picture of a machine or installation and making a photographic reproduction of the negative on a heat and humidity resistant plastic film sheet on which specifications and changes can be drawn in as desired. Engineering data are presented so that they can be visualized by anyone. In making proposals for field changes of equipment or installations, several alternatives can be shown quickly by using different prints of the same photograph and altering from print to print only the changes specific to each alternative. Minor changes in devices which are complicated to draw, and for which there is no file drawing, can be shown by Photoneering. Developed by **Technical Reproduction Service**, 375 South St., Newark 5, N. J.

▲ For more details circle NED-829 C9 on enclosed inquiry slip ▲

MAGNETIC CORE MATERIAL has low losses in 10-500-kc range



High initial and maximum permeability with high saturation magnetization and low losses in the 10 to 500-kc frequency range are features of MN-31 ferrite material for magnetic cores. Developed for use at moderate frequencies, it has high inherent resistivity to prevent eddy current losses. Material is machinable and can be ground to virtually any shape with tolerances of ±0.001 in. Other characteristics are low hysteresis losses, 0.2 per cent per degree Centigrade temperature coefficient of permeability, low magnetization constant, and high vibrational shock resistance. Curie temperature is over 180° F, and direct current resistivity is 250 ohm-cm. Made by **Kearfott Co.**, 1500 Main Ave., Clifton, N. J.

▲ For more details circle NED-830 C9 on enclosed inquiry slip ▲

For all-'round deodorizing . . .

ROUNDS

Fragrant, laborless deodorant discs for urinals, bowls, garbage pails, lockers, closets

Deodoroma ROUNDS cost in use averages only a *fraction* of one cent a day. Rounds are formed under 70,000 pounds pressure: are dense and durable. Fragrance is locked in: lasts until the last particle has vaporized—there's no harsh "moth cake odor." Packed eight to the telescoping box—each Round sealed airtight—easy-to-shape Holzit wire holder in every box. For literature write to The C. B. Dolge Company, Westport, Conn.

For free sanitary survey of your premises ask your Dolge service man

Dependable DOLGE
WESTPORT, CONNECTICUT

▲ For more details circle NED-831 C9 on enclosed inquiry slip ▲

NEW PLATECOIL SPECIFICATIONS

Send for your free copy of Bulletin P-57, describing the revolutionary new MULTI-ZONE PLATECOIL. New specifications, with operating pressures up to 250 psi. New capacity ratings. New configurations to solve difficult tank and process heating and cooling problems.

PLATECOIL® DIVISION
LANSING 9, MICHIGAN
TRANTER MANUFACTURING, Inc.

▲ For more details circle NED-832 C9 on enclosed inquiry slip ▲

New ROLLPIN APPLICATION DATA!

Esna's latest Rollpin booklet gives you valuable information on where to use and how to install these versatile, all-purpose fasteners. A slotted, chamfered, cylindrical spring pin, Rollpin locks securely in place—yet can be drifted out and used over and over again. Write for it today and see how Rollpins can simplify design and production operations. Address Dept. R55-337.

ROLLPIN®

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

▲ For more details circle NED-833 C9 on enclosed inquiry slip ▲

Whether you use belting for power transmission, conveying, or carrying tapes, there's news and profit for you in Texalon. Belt widths up to 24".

QUICK CURE FOR BELTING HEADACHES

To avoid costly shutdowns when belts break . . . to eliminate time lost shortening belts that have stretched . . . call for Texalon, the new all-synthetic belting by Rhoads.

Texalon is easily made endless in minutes on the machine by your own maintenance personnel. It's the quick belt that minimizes shutdowns. Texalon bounces without stretch, never needs shortening. Replaces rubber, leather, and woven endless belts. Lasts longer, works better.

Give us a few facts about your belting application, or write for Texalon bulletin to J. E. Rhoads & Sons, Wilmington 99, Delaware.

Typical Texalon Application

Compressors . . . Texalon belt, 31' long and 5" wide, replaced 10" wide double leather belt after emergency breakdown. Texalon made endless and installed with minimum of plant shutdown.

RHOADS

Where the Job Selects the Belt . . . Since 1702

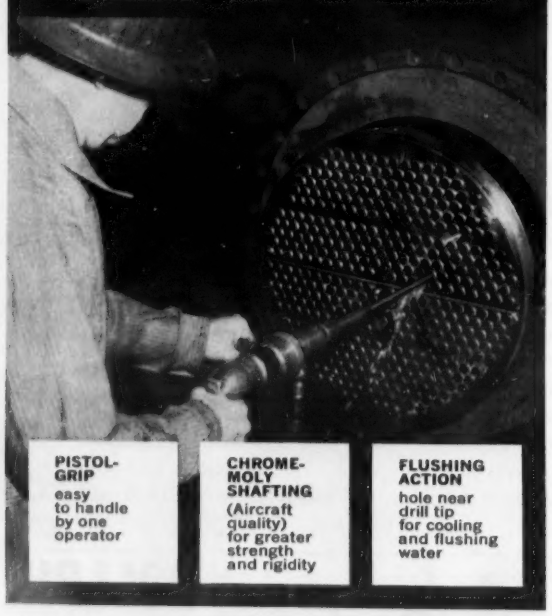
▲ For more details circle NED-837 C9 on enclosed inquiry slip ▲

newest

ELLIOTT

tube cleaner

lightweight! air-driven!



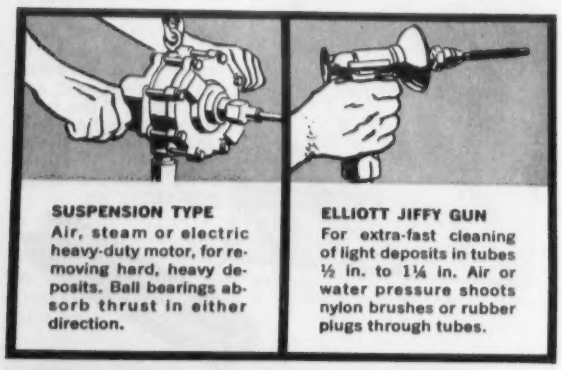
PISTOL-GRIP easy to handle by one operator

CHROME-MOLY SHAFTING (Aircraft quality) for greater strength and rigidity

FLUSHING ACTION hole near drill tip for cooling and flushing water

for condenser and heat exchanger tubes

Lightweight. Powerful. Air-driven. Trigger-action control with speed governor to prevent shaft-whip. High-speed motor reduced through planetary gears to 1500 rpm. Integral water-feeding attachment with finger-action valve which controls flow of cooling water into hollow shaft and drill or brush. Drills and brushes for varied needs. Built-in oil reservoir. Send for tube cleaner bulletin Y-48.



SUSPENSION TYPE Air, steam or electric heavy-duty motor, for removing hard, heavy deposits. Ball bearings absorb thrust in either direction.

ELLIOTT JIFFY GUN For extra-fast cleaning of light deposits in tubes ½ in. to 1¼ in. Air or water pressure shoots nylon brushes or rubber plugs through tubes.

ELLIOTT Company
Lagonda Plant—Springfield, Ohio

Y9-1A

▲ For more details circle NED-838 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Comparative Casters

Payson-Harris & Reed, Inc.—20-page Comparative Caster List lists company's caster and wheel models with the comparable numbers of major competitors. Booklet is compiled for industrial distributors, design engineers, and purchasing agents.

▲ For more details circle NED-839 C9 on enclosed inquiry slip ▲

Uses of Nickel Alloy Wire Cloth

International Nickel Co.—"Which Inco Nickel Alloy Can Solve Your Wire Cloth Problem?" is title of 16-page booklet which appraises the physical advantages of wire cloth and indicates weaves and sizes for various purposes. Case histories range from use of Monel alloy wire cloth for lint removal in domestic washers to the use of knitted wire mesh for mist eliminators in fractionating towers.

▲ For more details circle NED-840 C9 on enclosed inquiry slip ▲

Vibratory Parts Feeders

Syntron Co.—Descriptions, data, and specifications for five standard bowl type parts feeders, two fluid power models, and five transfer and storage parts feeders are contained in 16-page booklet. Bowls and drive units for "do-it-yourself" parts handling systems are described, as are accessories.

▲ For more details circle NED-841 C9 on enclosed inquiry slip ▲

Adjustable Speed Drives

Servo-Tek Products Co.—Discussion of basic methods for operating direct current motors from alternating current power sources is discussed in 16-page Catalog 11058. Schematic diagrams of systems are included. Specifications, ratings, and other data on Servo-Tek adjustable speed drives complete the catalog.

▲ For more details circle NED-842 C9 on enclosed inquiry slip ▲

Mounted Wheels & Grinders

Chicago Wheel & Mfg. Co.—Many uses of Handee grinders, mounted wheels, and abrasives are outlined in 12-page Catalog 6065. Uses, operation instructions, and suggested applications are covered. Saws, brushes, cutters, drum sanders, and bands for use with the Handee electric tools are shown.

▲ For more details circle NED-843 C9 on enclosed inquiry slip ▲

Copper & Copper Alloy Tubing

Calumet & Hecla, Inc., Wolverine Tube Div.—"The Measure of Tubemanship" is an 18-page manual which is designed to acquaint industry with the skills and techniques that are needed to make seamless copper and copper alloy tubing. Shown are the company's facilities, details of quality control procedures, development of new ideas and products, and services that are available to customers.

▲ For more details circle NED-844 C9 on enclosed inquiry slip ▲

Corrosion Resistant Alloys

Rolled Alloys, Inc.—Bulletin 107 contains 6 pages of information on RA330 heat resisting alloy that combines strength with resistance to carburization, oxidation, and thermal shock. Chemical and physical properties as well as application guidance are covered.

▲ For more details circle NED-845 C9 on enclosed inquiry slip ▲

Office Accessories

Air Accessories, Inc., Delta Product Div.—Expanding from the original transparent Plexiglas chair mat, line of office accessories now includes convenience trays, waste baskets, letter trays, desk tops, and office and industrial signs. These decorative and utilitarian plastic accessories are described in Catalog 59.

▲ For more details circle NED-846 C9 on enclosed inquiry slip ▲

Molybdenum in Steel Castings

Climax Molybdenum Co.—The role of molybdenum in heat-treated low-alloy steel castings is explained in 36-page treatise, compiled by Prof. John Wallace of Case Institute of Technology. Discussed are such properties as hardenability, tensile, fatigue, wear and impact resistance, machinability, and weldability of cast steel. Tables, graphs, and charts serve to clarify the text.

▲ For more details circle NED-847 C9 on enclosed inquiry slip ▲

Choppers

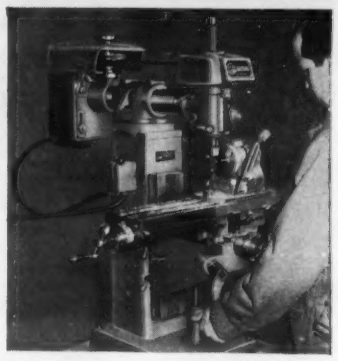
Airpax Products Co., Seminole Div.—"Why Use Choppers?" is title of 24-page booklet which is the first of a series dealing with the contact modulator. Offered as a guide to design and electronic engineers it discusses this device which increases transducer output to a usable value.

▲ For more details circle NED-848 C9 on enclosed inquiry slip ▲

HERE'S PROOF OF PERFORMANCE...

"The Clausing Vertical Miller is the best machine for the money on the market today! It is most versatile . . . and extremely accurate".

—F. L. BALLENTINE, EMPIRE TOOL ENGINEERING COMPANY, INC.



This report is typical of the experience of users everywhere. The CLAUSING VERTICAL MILLER is a precision machine tool designed for operations where "extremely accurate" machining is required. And, it is an outstanding producer, "most versatile, easiest to set up, get around and operate of *any* miller at or near its low price." Only $850 f.o.b. factory.

VERIFIED ACCURACY — Before it leaves the factory each CLAUSING Mill must pass rigid tolerance tests such as:

1. Top of table perpendicular to column ways within .0005" in 6" travel.
2. T-slots square with cross slide dovetails within .0005".
3. Table, parallel to turret within .001".
4. Spindle square with table, front to rear, within .001" T.I.R. in 5" circle.
5. Spindle taper (internal) run out within .0002" at spindle nose.
6. Table T-slots parallel to table dovetail ways within .0005" in 8" longitudinal travel.

MILLS, DRILLS, BORES, REAMS, SHAPES AT ALL ANGLES . . . WITH ONE WORK SET-UP!

Atlas CLAUSING PRECISION MACHINE TOOLS

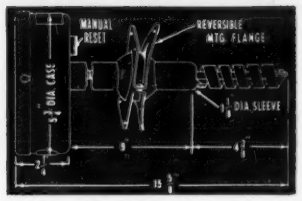
Write for Free Literature

CLAUSING DIVISION
ATLAS PRESS COMPANY
3-113 N. PITCHER ST., KALAMAZOO, MICH.

▲ For more details circle NED-849 C9 on enclosed inquiry slip ▲

MERCOID HIGH TEMPERATURE LIMIT CONTROL

FM APPROVED



Mercoid Type MX-51R is an adjustable indicating type high temperature limit control actuated by a coiled bimetal element to result in a normally closed mercury (tube type) switch opening in event the supervised temperature reaches the preset limit point. An externally operated manual reset knob is arranged to reset the mercury switch after high temperature operation and normal temperature restoration.

Type MX-51R: SP-ST circuit opens automatically at the preset control setting on temperature rise. Manual reset provided to restore switch to closed position after temperature falls.

OPERATING RANGE
Adjustable: 50 to 650°F.
Minimum Differential: 20°F.

WRITE FOR BULLETIN SEB-51

THE MERCOID CORPORATION
4211 Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-850 C9 on enclosed inquiry slip ▲

prevent waste
save time and money
increase efficiency

use

Ellisco BRUSH TOP CANS

Inexpensive HO Style: Screw Cap has applicator brush riveted in cap. Capacity: 3 oz. to 1 qt.

- ***prevent waste*** Brush size is ideal for applying small quantities of liquids. Cans are leakproof.
- ***save time*** Brush fastened to can lid makes application easy.
- ***save money*** Buy materials in bulk—use as needed.
- ***increase efficiency*** Cans are handy, easy to carry, always ready to use.

You and your servicemen, maintenance men, salesmen and customers will like the convenience and economy of ELLISCO brush top cans. They are ideally suited for paints, shellac, pipe "dope", adhesives, red lead, layout blue and your own products. Write, wire or call for information and prices

D Style: has high quality bristle brush soldered in cap. Ring or detachable wood handle. Capacity: 3 oz. to 1 qt.

BAldwin 3-3405

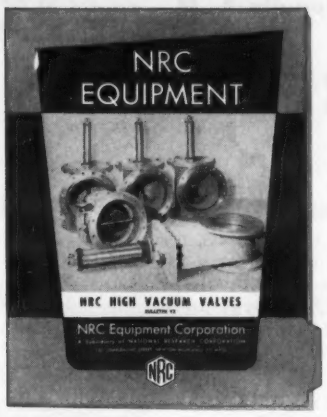
Ellisco REG. U. S. PAT. OFF.

GEORGE D. ELLIS & SONS, INC.
American & Luzerne Streets, Dept. P9
Philadelphia 40, Pa.

▲ For more details circle NED-851 C9 on enclosed inquiry slip ▲

New Vaccum Valve Manual Free

Write for Your Copy!



Gives engineering information on types and uses of high vacuum valves. Contains valuable design data on more than 275 valves. Sizes 1/8" to 20" manual and remote operation. Lists wye, globe, angle, slide, ball, air release, throttling and quick connect valves. Write for bulletin No. V3 today!

Department 29-C
NRC Equipment Corporation
A subsidiary of National Research Corp.
160 Charlemont Street, Newton 61, Mass.

▲ For more details circle **NED-852 C9** on enclosed inquiry slip ▲

2 SPEEDS **SIMPLEST HOOK-UP!**

VERSATILITY UNLIMITED!

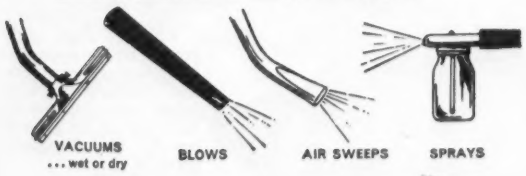
CLEMENTS **Cadillac** QUIK-VAC® MODEL 14

Makes quick work of any cleaning job—floor to ceiling. Picks up filings, chips, dirt, litter, *liquids!* Quickly converts for blowing operation.

2-SPEED MOTOR *Exclusive* . . . high speed for the tough jobs . . . reduced speed for cleaning delicate wiring or equipment!

3-in-1 HOSE COUPLER* *Exclusive* . . . Only one hose with coupler needed to connect to air outlet and two air intakes.
**Patent applied for.*

FULL LINE OF OPTIONAL EQUIPMENT for hundreds of cleaning, maintenance and production jobs.



WRITE FOR NEW BULLETIN
OTHER MODELS AVAILABLE FROM 1 TO 55 GALLONS

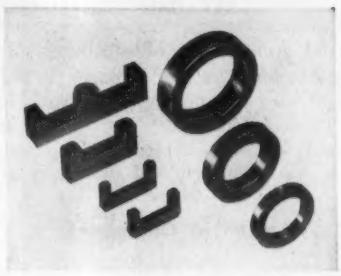
Industrial Division
CLEMENTS MFG. CO.
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 — *Specialists in vacuum cleaning equipment for home, business and industry.*

▲ For more details circle **NED-853 C9** on enclosed inquiry slip ▲

New Processes & Materials

POWER FERRITE
flux density exceeds 5000 gauss



Broadened application of power ferrites is expected for W-7 ferrite which has a maximum flux density in excess of 5000 gauss and performs well at frequencies from 400 to 15,000 cps. Its relative low cost suggests its use in many high frequency fields. Properties include maximum permeability, 4000; initial permeability, 1300; residual magnetism, 1000 gauss; and coercive force, 2.24 oersted at a test frequency of 1.5 kc and a temperature of 25° C. Curie point is 280° C. Made by **Allen-Bradley Co.**, 136 W. Greenfield Ave., Milwaukee 4, Wis.

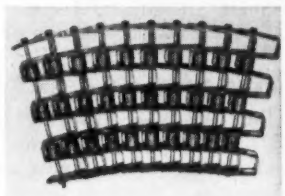
▲ For more details circle **NED-854 C9** on enclosed inquiry slip ▲

FLOOR RESURFACER
applied to wood or concrete

Usable for resurfacing and patching concrete floors, sidewalks, steps, and other areas, Unicrete provides a dustfree, noiseless, skidproof, resilient surface. It is merely applied to cleaned floor which has been coated with Lifekote Bond. One-half inch of mix is levelled and smoothed on floor, and it will withstand foot and light truck traffic after 12 hr or heavy trucking after 48 hr. It is self-sealing and is kept smooth by traffic. Made by **Tropical Paint Co.**, 1246 W. 70th St., Cleveland 2, Ohio.

▲ For more details circle **NED-855 C9** on enclosed inquiry slip ▲

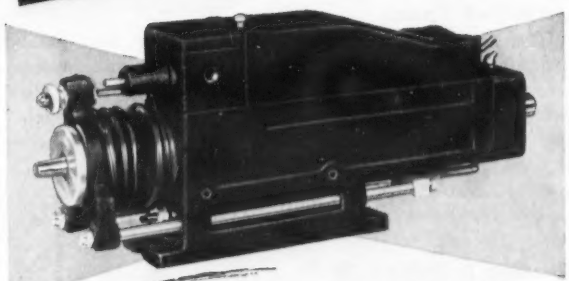
TURNABLE CONVEYOR BELT
conveys around corners, obstructions



Heavy-duty version of the standard weight, open mesh, turnable Omniflex conveyor belt permits conveyor flow around corners, structural obstructions, and other machines. Belt consists of formed flat wire members interconnected by rods. Rods pass through slots in the formed members rather than holes. This allows lateral flexing of belt to a turn radius of twice the belt width. Free rolling is provided by built-in rollers which turn on the connector rods. Belt presents a flat surface and is suitable for operations involving assembly, washing, drying, sorting, packing, and inspection. Belt widths from 3 to 48 in. are offered. Made by **Ashworth Bros., Inc.**, Winchester, Va.

▲ For more details circle **NED-856 C9** on enclosed inquiry slip ▲

bellows-locke **DRILL UNIT**



☆ combines hydraulic feed
☆ air powered rapid advance
☆ electrically driven spindle

Full 3" stroke — any part usable. Takes up to 5/16" drills. Either pulley driven or direct motor drive models available. Compact, streamlined, light-weight. Can be mounted at any angle in any plane. Any number of units can be easily synchronized and interlocked for accurately timed sequence operation.

Write for BULLETIN BL-5R

Address Dept. NED 359.

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION
AKRON 9, OHIO
In Canada: Bellows Pneumatic Devices of Canada, Ltd., Toronto, Ont.

▲ For more details circle **NED-857 C9** on enclosed inquiry slip ▲

Maintains Accurate Web Register Within Plus or Minus .010 Inch!
World's most efficient, economical side register control! Unique Stanford vacuum principle instantly, accurately corrects any change in web path. Eliminates telescoped and out-of-register rolls . . . prevents spoilage . . . permits full-speed operation.

Saves Big Money on Coating, Slitting, Printing, Laminating, etc.—any operation, any material, any width.

Unconditionally Guaranteed!

30-Day Test Trial in Your Plant—Write, Wire or Phone for Details!

Stanford ENGINEERING COMPANY
Salem, Illinois • Phone: Salem 553
Canadian Reps: Manton Brothers, Ltd., Toronto
Mfrs. of Slitters, Web Guides, Rewinding and Constant Tension Equipment

▲ For more details circle **NED-858 C9** on enclosed inquiry slip ▲

Be "years ahead" with SILICONE LUBRICANTS

Dow Corning Silicone Lubricants remain effective long after the best organic oils and greases have oxidized . . . give products exceptionally long "shelf life", keeping warranty costs low . . . assure quiet operation regardless of temperature or length of service.

Heat-stable, non-oxidizing, nongumming and non-corrosive, silicone lubricants are preferred by many leading makers of clock movements, timing devices . . . mechanisms having lightly loaded bearings, gears, pinions and racks.

first in silicones

Add a new "plus" to your product! Send today for Free Sample and full information.
Write Dept. 5415.

Dow Corning CORPORATION
MIDLAND, MICHIGAN

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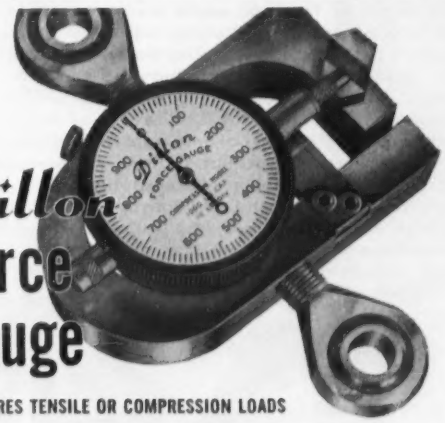


Dillon Force Gauge

MEASURES TENSILE OR COMPRESSION LOADS

- Accurate to within 1% of full scale capacity.
- Jewelled dial indicator repeats perfectly.
- Shockless mechanism for rough jobs.
- Red maximum pointer registers peak loads.
- Optional switch controls mechanisms.
- Accommodates wide variety of attachments.
- Available as combination push-pull model.
- Extremely compact. Fits into "tight" spaces.
- Flexes millions of cycles without damage.

WRITE FOR FREE ILLUSTRATED CATALOG AND PRICE LIST

12 different capacities from as low as 0-10 lbs. up to as high as 0-50,000 lbs.

W.C. Dillon & CO., INC. 14578NE Keswick Street Van Nuys 1, California

▲ For more details circle **NED-860 C9** on enclosed inquiry slip ▲

Nothing sticks to TEFLON*—yet you can cement it to anything

Cementable Teflon, as made by Garlock's Plastics Division, the United States Gasket Co., can be bonded to metal, wood, glass, concrete, other surfaces. And because it is Teflon—chemically-inert, non-contaminating, low coefficient of friction, unique dielectric properties, +500° F. heat resistance with use of high temperature adhesives—there's a thousand applications for it: LINERS FOR DUCTS, PIPE, HOPPERS, TANKS; BACTERIA-FREE WORK SURFACES IN FOOD AND PHARMACEUTICAL PLANTS; FRICTIONLESS FACINGS FOR VALVES AND MACHINE PARTS; GUIDE RAILS ON PACKAGING MACHINES AND CONVEYORS; INSULATION FOR ELECTRIC MOTOR WINDINGS.

Available in continuous tapes (.005" to .096") through 24" wide, and in sheets through 48" x 48".

Contact one of the Garlock Packing Company's 30 sales offices and warehouses in the U.S. and Canada, or write for Catalog AD-158.

THE GARLOCK PACKING CO., Palmyra, N. Y.

*DuPont Trademark

United States Gasket Plastics Division of GARLOCK

▲ For more details circle NED-861 C9 on enclosed inquiry slip ▲

NEW CONELOK

one-piece locknut . . . with prevailing torque

Three sectors of the tapered portion of the CONELOK nut are preformed inwardly (Fig. 1). When the Nut is applied to a bolt, these conforming sectors are elastically returned to a circular configuration and create an inward and downward pressure which produces intimate contact between the load carrying flanks of the nut and bolt threads (Fig. 2). The shape of the cone sector displacement insures conformity with the mating bolt and maximum friction contact area. . . . The closed stress path in the locking portion of the nut and the advantageous distribution of locking pressure, produce a locking device of high fatigue life . . . and equivalent locking force is exerted at only a fraction of the stress of any slotted type locknut. CONELOK maintains its locking action through many re-applications. . . . It is adaptable to high, and low torque assemblies . . . to high torque stop-nut applications . . . and may be obtained in sizes from No. 10 to 1½", Full and Thick dimensions are "Standard".

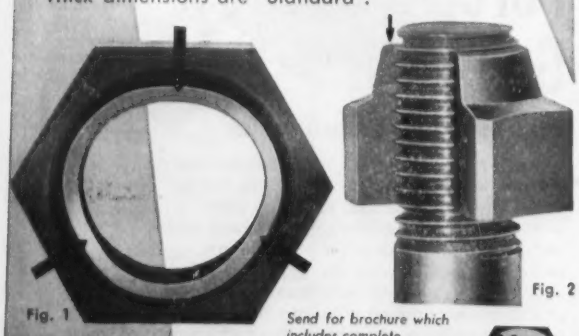


Fig. 1 Fig. 2

Send for brochure which includes complete engineering specifications.

NATIONAL MACHINE PRODUCTS COMPANY

an SPS company 44250 UTICA ROAD UTICA, MICH

▲ For more details circle NED-862 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Industrial Sapphire Products

Aurele M. Gatti, Inc.—26-page Manual No. 5 is a comprehensive engineering, design and purchasing-specifications guide to jewel bearings and other industrial applications of sapphires. It gives nomenclature and tolerances of five basic jewel bearing types, formulas for calculating frictional losses, and describes mounting methods. Diversified uses are shown. Reprint copies of index and selected pages are available.

▲ For more details circle NED-863 C9 on enclosed inquiry slip ▲

Environmental Chambers

Webber Engineering Corp.—A variety of environmental chambers for producing controlled atmospheric conditions are illustrated and specified in 28-page brochure. It features an atmosphere and high altitude chart and provides technical information, a temperature conversion chart, and schematic diagrams. Several environmental applications for these chambers are reviewed.

▲ For more details circle NED-864 C9 on enclosed inquiry slip ▲

Storage Racks

Tube-Strut Corp.—The Rack Reference Library comprises a 24-page illustrated course on storage rack design and construction; a 12-page booklet on design and construction of fixtures; a combination of capacity graphs that includes I-beam, channel, and pipe; and 12 case histories of industrial storage problems and how they were solved. Library is offered without charge.

▲ For more details circle NED-865 C9 on enclosed inquiry slip ▲

Adjustable Vibrating Feeders

Arthur G. Russell Co.—Vibro Block vibrating feeders, described in Bulletin 5807, are available in four sizes and are energized by three to six magnetic motors. Feeders are available with clockwise and counterclockwise bowls and will feed a variety of parts at speeds up to 80 fpm. Vertical and horizontal components are adjustable.

▲ For more details circle NED-866 C9 on enclosed inquiry slip ▲

Floodlight Catalog

Provided in 184-page, 14-section Floodlight Catalog 320 are descriptive data and ordering information on complete line of floodlights, special lighting fixtures, and accessories. Sections cover selection of floodlights, heavy duty and general purpose floodlights, mercury vapor units, special fixtures, hazardous area lighting, searchlights, underwater floodlights, poles, and accessories. Write on company letterhead to Crouse-Hinds Co., Product News Div., Syracuse 1, N. Y.

▲ For more details circle NED-867 C9 on enclosed inquiry slip ▲

Temperature-Millivolt Conversions

Thermo Electric Co.—Tables for converting degrees Fahrenheit and Centigrade to millivolt values are on opposite sides of this Temperature-Millivolt Conversion chart. Temperatures from −320 to 3270° F and −200 to 1800° C are converted in 5-degree increments for eight different thermocouple calibrations.

▲ For more details circle NED-868 C9 on enclosed inquiry slip ▲

Laminated Panels

Haskelite Mfg. Corp.—Attractive, durable, laminated structural panels which combine materials of various densities, are opening new design fields, according to 8-page Bulletin 2b/Ha. Panels are available in various weatherproof faces and can be custom designed to individual specifications. Thicknesses range from 1 to 8 in., widths up to 4 ft, and lengths up to 12 ft.

▲ For more details circle NED-869 C9 on enclosed inquiry slip ▲

Riveting & Bolting Tools

Hi-Shear Rivet Tool Co.—To keep pace with new varieties of Hi-Shear rivets, 32-page Tool Catalog has been revised to include many new tool sets to drive stainless steel and harder Hi-Shear collars. Short rivet sets for use with stubby Jiffy guns are catalogued as are new one-piece driver blades to install Hi-Torque bolts.

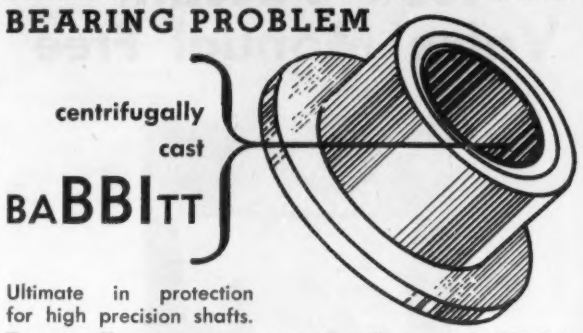
▲ For more details circle NED-870 C9 on enclosed inquiry slip ▲

Precision Tube Benders

Wallace Supplies Mfg. Co. — Wallace Consensus benders illustrated in 20-page booklet are designed for critical bending of thin wall, high strength alloy tube for application in missile and jet plane work. Machines are, in nearly each case, designed to meet a particular bending problem.

▲ For more details circle NED-871 C9 on enclosed inquiry slip ▲

A NEW SOLUTION FOR YOUR BEARING PROBLEM



Ultimate in protection for high precision shafts.

By a totally new process, centrifugally cast BABBITT in bronze bushings forms a permanent, non-porous, intermolecular bond with the backing material. Bearings BABBITTED this way are excellent for extreme temperatures and high pressure applications. We can re-BABBITT your old shells, or manufacture the complete assembly, because we regularly make all types of nonferrous bushings with tolerances to ± .0002, any length up to 16", ½" to 20" diameter. Our Engineering Department is available for immediate consultation and prompt quotations.

BRONZE BEARINGS, INC.

AIR FORCE APPROVED PRIME CONTRACTOR
340-344 NORTH AVENUE EAST
CRANFORD, NEW JERSEY

▲ For more details circle NED-872 C9 on enclosed inquiry slip ▲

NEW!

Keeps Pipe Joints Lubricated on Temperatures Up to 1050° F.

This new, proven thread compound has no equal for high-temperature/high-pressure installations. Provides better lubrication when assembling screwed or flanged joints . . . prevents seizure and galling when taking down. Crane Formula 425-A doesn't deteriorate in can. Conforms to Military Specification MIL-A-907. Stocked in 1- and 4-pound cans by your local Crane Branch or Crane Wholesaler.

CRANE®

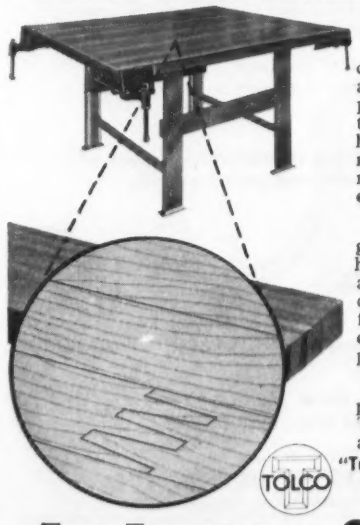
World's Leading Supplier of Piping Materials

Crane Co., General Offices: 836 S. Michigan Ave., Chicago 5, Ill.

▲ For more details circle NED-873 C9 on enclosed inquiry slip ▲

TOLCO Tops

FIRST AGAIN WITH A FINGER-JOINT THAT REALLY WORKS



"Finger-Jointing", developed by Tolerton after 2 years' research, permits use of **only** the best all-white, highly selected, premium Northern hard maple, **at no extra cost to you.**

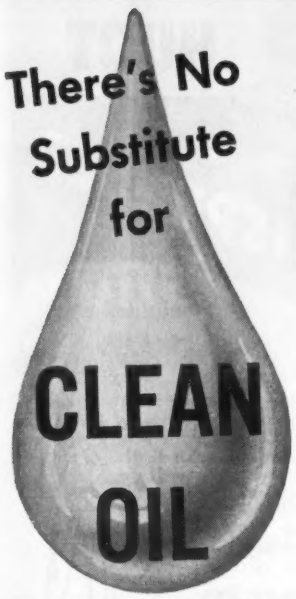
Result? Tops with greater tensile strength, harder wearing surface and uniformly white color, since all imperfections can be graded out of the finished product.

First with many such product advancements, Tolerton proves again and again **"Tolerton does it best—first."**

TOLCO

THE TOLERTON COMPANY
265 N. FREEDOM AVE. ESTABLISHED 1894 ALLIANCE, OHIO

▲ For more details circle NED-874 C9 on enclosed inquiry slip ▲



Remove Ferrous Grit from Lubricating Oil and Hydraulic Systems with

FERROFILTER®

Permanent Magnet Separators

For complete information on installation and operation; capacities, sizes and dimensions
Write today for BULLETIN PM-56

Low Pressure (to 100 psi) FERROFILTERS 1" and under made this way

Other low pressure models to 3" pipe size

High pressure models also available to 5000 psi.

S. G. FRANTZ CO., Inc.
Brunswick Pike & Kline Ave.
P. O. Box 1138, Trenton 6, N. J.

▲ For more details circle NED-875 C9 on enclosed inquiry slip ▲

Now! **PALLETIZED**
Wood Floor Blocks save you money . . . speed floor repair!

CUTS HANDLING COSTS! Each pallet load of top grade creosoted wood floor blocks compactly strapped for fast efficient fork truck handling! Blocks banded together in units of 18 to 22 blocks for fast, easy handling at job site.

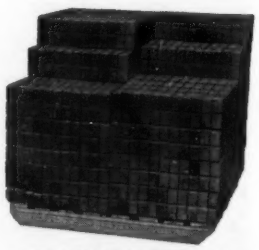
CUTS LABOR COSTS! No loose blocks to handle by hand! Pac-A-Blocks are easier to unload...easier to move from job to job . . . easier to install! Blocks stay on pallet until last bundle is used. You save on time, labor . . . eliminate block loss and breakage!

CUTS STORAGE COSTS! Pallet loads protected by weather-resistant bags for outdoor storage...can be stacked on one another to save valuable storage space!

IMMEDIATE SHIPMENT! 25 to 400 sq. yds. shipped within 24 hours!

Install PAC-A-BLOCK the modern way with NEW KRE-X Floor Bond! Ready to use. Fast setting. Seals against moisture, oil and dirt. Resilient—won't chip or crack.

WRITE TODAY FOR NEW BULLETIN!



Pac-A-Block sizes don't vary

Blocks go down fast with KRE-X

PAC · A · BLOCK
HAYDEN-SHAW MINERAL PRODUCTS · 7816 W. JEFFERSON · DETROIT 17, MICH.

▲ For more details circle NED-876 C9 on enclosed inquiry slip ▲

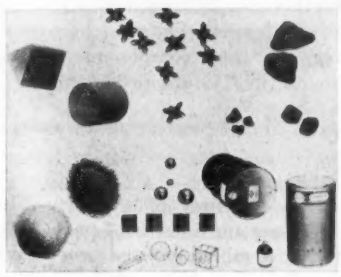
New Processes & Materials

WOOD TANK LININGS
polymers resist most materials

Polymer linings heat sealed into a bag liner are being custom made to fit the inside of new and in-use round or rectangular wood tanks. Polyvinyl chloride lining is used for all inorganic acids and bases, bleaches, and many organic solvents. Polyethylene linings are suited for organic solvents and inorganic solutions. Liner is usually placed loose in the tank and fastened to the wood around the top or carried over the top and fastened outside. It can be cemented to the tank where necessary. Fittings are easily connected to the tank with the liner in place. Made by **Wendnagel & Co.**, 600 W. Cermak Rd., Chicago 16, Ill.

▲ For more details circle NED-878 C9 on enclosed inquiry slip ▲

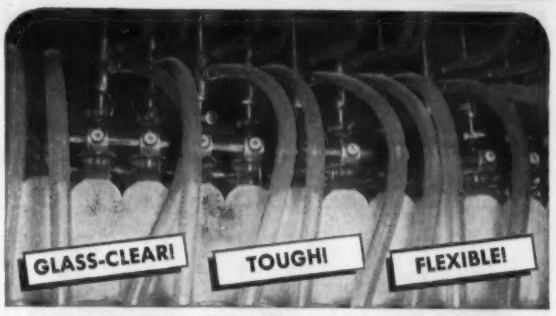
BARREL FINISHING MEDIA
variety of types is available for use with metal, plastic, rubber



Standardized in size and shape, Multi-Form barrel finishing media is one of several media available from this company for a wide variety of tumbling barrel finishing. It can be ordered in triangular or cylindrical shape, by size of triangle leg or circle diameter, and by appropriate length for finishing metals and plastics in any type of barrel. Type A aluminum oxide 100/320 grit, Type B aluminum oxide-silicon carbide 40/150 grit, Type C silicon carbide 100/120 grit, and Type P porcelain with no grit abrasive are types offered. Other grit groups can be specified.

Die cast zinc Multi-Stars are designed for precision finishing of metals, plastics, and rubber. They are a good agent for carrying loose abrasive grit into inaccessible spots of intricate parts. Zinc Polishapes and zinc balls are also offered in varied sizes. Aluminum oxide and silicon carbide grain to be used with compounds for specific finishing is available, as are various sizes of Nuggets of aluminum oxide, limestone, granite, walnut shells, cob meal, wood chips, and steel balls. Made by **BMT Mfg. Corp.**, 110 E. Ninth St., Elmira Heights, N. Y.

▲ For more details circle NED-879 C9 on enclosed inquiry slip ▲



TYGON *flexible plastic* **TUBING**

Tygon Tubings are produced in many formulations to withstand a wide range of service conditions. Some formulations are tasteless, odorless and non-contaminating—can handle high purity solutions such as liquid foods and drugs in complete safety. Others successfully handle corrosive liquids or gases and are resistant to acids, alkalis, oils, water and alcohol. All are physically tough to withstand rough usage.

Tygon Tubings are extremely flexible. They adapt to any layout — can be installed in minutes. Glass-like clarity permits visual inspection of flow. The polished bore facilitates fast, thorough cleaning. Fifty-five sizes from 1/16" to 3" i. d. provide a size for virtually every tubing need.

367-E

Write today for Bulletin T-97 for complete technical data.

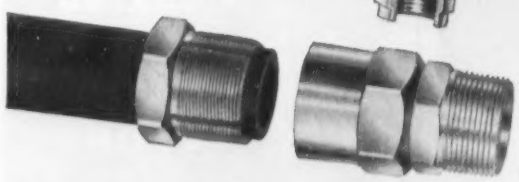
Plastics & Synthetics Division
U. S. STONEWARE
AKRON 9, OHIO

▲ For more details circle NED-880 C9 on enclosed inquiry slip ▲

Alemite Surgepruf®

THE COMPLETE LINE OF NATIONALLY AVAILABLE HYDRAULIC HOSE AND REUSABLE COUPLINGS FOR FAST, EASY ON-THE-JOB REPLACEMENTS!

New Low-Pressure "Shur-Lock" Hose—for use on fuel, filter, oil, air and vacuum gauge lines . . . wherever low-pressure hose lines are used within a temperature range from −40° to +275°F. Rugged, precision-matched couplings with leak-proof grip. Complete range of hose sizes and couplings, as well as adapters and swivel adapters. Quick, easy assembly. General purpose hose and coupling utility kits Nos. 2208 and 2209, eliminate need for big inventory.



Medium-High and High-Pressure Non-Skive Hydraulic Hose—of either single or double wire braid. Seamless inner tube of Buna-N rubber and synthetic Neoprene outer cover. Resists abrasion, weather, oil. High-strength, reusable couplings. Assemblies made easily, without special tools. General purpose utility kit No. 2207 eliminates need for big inventory.

Write for complete catalogs of Surgepruf Hose, Couplings and Components.

Symbol of SW Excellence
ALEMITE DIVISION
STEWART-WARNER CORPORATION

Dept. HH-39, 1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-881 C9 on enclosed inquiry slip ▲

Containerized Waste Cuts Costs . . . Ends "Trash Piles" & Fire Hazards

Mfd. By DEMPSTER BROTHERS Inc.
Patents Pending

PUT THE LOW-INVESTMENT DEMPSTER-DUMPMASTER SYSTEM TO WORK FOR YOU

6 Container Sizes—1 Thru 6 Cu. Yd. Available

Rental Service Available In Most Major Cities...

DEMPSTER DUMPSTER® SYSTEMS

Write TODAY For FREE BROCHURE

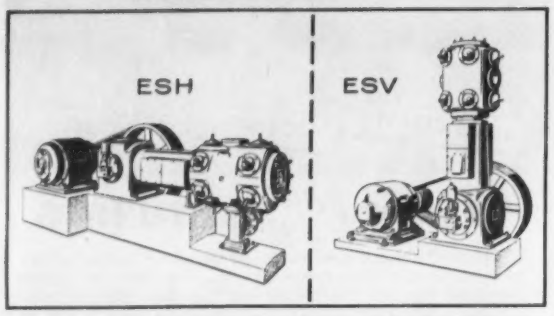
Containerize plant waste and refuse when it accumulates — indoors or outdoors . . . small or large volume — there are many enclosed DEMPSTER-DUMPMASTER Containers to fit your storage needs. The safe, economical Dumpmaster automatically picks-up and empties each container as it is filled . . . cuts collection costs to new record lows. Write for free brochure or the name of your nearest DEMPSTER-DUMPMASTER Equipped Private Hauler.

Dept. NE-3 DEMPSTER BROTHERS • Knoxville 17, Tennessee

▲ For more details circle NED-877 C9 on enclosed inquiry slip ▲

AIR COMPRESSORS

New!



These two new Ingersoll-Rand heavy-duty compressors are actually the same unit, built in either horizontal or vertical arrangement. This brand-new design features completely sealed frame, full-floating aluminum bearings, I-R Type A Channel Valves, and precision-machined running parts which never need fitting or adjustment. Sizes 20 to 150 hp, wide range of pressures, for any air or gas service. Write for more information.

Ingersoll-Rand
I-816 11 Broadway, New York 4, N.Y.

OVER 1000 COMPRESSOR TYPES AND SIZES...FROM 1/2 TO 7500 HORSEPOWER

▲ For more details circle NED-885 C9 on enclosed inquiry slip ▲

BRAND NEW NAME PLATE MARKER

SCHMIDT PNEUMATIC PLATE STAMPER

- Power operated
- Flexible
- Designed for safety
- Simple operation
- Eliminates fatigue

This GTS designed and built machine guarantees that your plates will be marked with perfect precision: alignment, spacing and depth of characters.

Get all the facts about the GTS Pneumatic Plate Stamper . . . Write for complete information today.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

▲ For more details circle NED-886 C9 on enclosed inquiry slip ▲

NOW! A TRULY VERSATILE STANDARD KILN TYPE OVEN

FOR
- BAKING
- HEATING
- DRYING
- CURING

MOCO has incorporated many custom, money-saving features into this standard oven — using gas fuels or electricity.

They offer *maximum temperature uniformity* and *complete safety equipment* at amazingly low initial cost. You can depend fully on a MOCO-engineered product!

MORE INFORMATION?
If you are in the market for a standard oven, be sure and send for this informative brochure.

MOCO
MICHIGAN OVEN COMPANY
419 Brainard, Detroit 1, Mich.

▲ For more details circle NED-887 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Comparison of Welding Wires

American Chain & Cable Co., Page Steel & Wire Div.—Replacing previously issued ACCO bulletins on welding wire comparisons, 4-page Bulletin DH-1218-O details the physical properties as-welded and gives analyses, tensile strength, elongation, and hardness of available Page Welding wires and virtually all competitive makes. Typical uses of gas welding rods, bare electrodes, automatic welding wire, and metal spray wire are listed.

▲ For more details circle NED-888 C9 on enclosed inquiry slip ▲

Electric Foot Switches

Vemaline Products Co.—"1959 Footswitch Catalog" gives ratings and suggests uses of over 40 footswitches with capacities from 7 to 40 amp. Fifteen new models have been added to line and are shown for the first time.

▲ For more details circle NED-889 C9 on enclosed inquiry slip ▲

Precision Gages & Tools

Brown & Sharpe Mfg. Co., Industrial Products Div.—Bulletin M1 shows the latest developments in the B&S line of precision tools which includes tool setting, radius, dial snap, and bore gages; edge finders; sine plates; micrometers; height gages; permanent magnet chucks; and precision-ground tool steel. 20 pages of data are included.

▲ For more details circle NED-890 C9 on enclosed inquiry slip ▲

Ferromagnetic Materials

Polymer Corp. of Pennsylvania—Data on Ferrotron nonmemory electromagnetic core components which operate in temperatures to 350° C are presented in 4-page Bulletin BR-10.

▲ For more details circle NED-891 C9 on enclosed inquiry slip ▲

Packaged Boilers

Johnston Brothers, Inc.—Features of the new 200 Series of packaged boilers are outlined in 4-page Bulletin 200. These factory-assembled boiler-burner-control combinations are suited for steam or hot water generation and are available in ratings of 20 through 80 hp. Steam pressures range to 150 psi. Firing can be gas, oil, or combination.

▲ For more details circle NED-892 C9 on enclosed inquiry slip ▲

Modern Office Copying Techniques

Eastman Kodak Co., Business Photo Methods Div.—How modern office copying techniques can save money and increase efficiency in purchasing, production, sales, engineering, research, and distribution is explained in 16-page Bulletin F1-106. Four Verifax copying machines for reproducing anything written, printed, typed, or drawn are described.

▲ For more details circle NED-893 C9 on enclosed inquiry slip ▲

Bulk Materials Handling Systems

Tote System, Inc.—20-page illustrated Catalog 7 discusses the use of Tote Bins, Tote Tanks, and Tote Tilts and accessories for efficient handling of bulk materials and fluids. These engineered container-dispensers are used in conjunction with automatic filling and discharge stations, in inter- and intraplant operations, and in batch and continuous process activities.

▲ For more details circle NED-894 C9 on enclosed inquiry slip ▲

Resistance Welding Practices

Federal Machine & Welder Co.—Bulletin PP-54 contains 28 pages of information relating to the principles and practices of resistance welding. It describes spot, projection, seam, flash, and other resistance welding techniques and applications. Formulas and data aid in resistance welding of practically all metals.

▲ For more details circle NED-895 C9 on enclosed inquiry slip ▲

Magnetic Starters

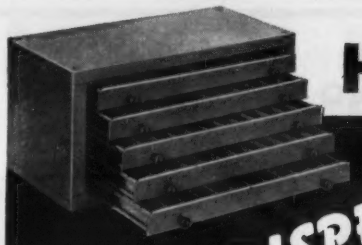
Cutler-Hammer Inc.—The Three Star line of alternating current magnetic starters in 0 through 4 NEMA sizes for reversing and nonreversing single-phase and squirrel-cage motors is subject of 16-page Catalog EN-150. Rating and dimension information as well as details of accessories and operation aid in selection.

▲ For more details circle NED-896 C9 on enclosed inquiry slip ▲

Electric Hoists

Columbus McKinnon Chain Corp., Chisholm-Moore Hoist Div.—Performance and application information on Lodestar electric hoists with 1/8 to 2-ton capacities are presented in Bulletin 158-G. Lifting speeds range from 8 to 60 fpm, and a wide range of controls, brakes, and safety features are offered. Trolleys and other accessories are described.

▲ For more details circle NED-897 C9 on enclosed inquiry slip ▲



HUOT
DRILL DISPENSER

Eliminates Rummaging Through Stacks of Drills

No more running out of drills—your entire stock can be seen at a glance. Each size of drill has its own compartment with rounded bottom for easy selection. You can store dozens of small drills and several large ones in their own compartments. Built-in pricing or inventory system eliminates the needs for cost sheets, and will keep a record of drills on hand. *Specifications:* 14½" long, 7¼" high, 7¼" deep. Hammerlin baked enamel finish over rugged steel. *Write for circular.*

Made in three models for fractional, number or letter drills

"HUOT" is pronounced "HEW-OT"

By the makers of HUOT DRILL INDEX

HUOT MANUFACTURING CO.
571 N. Wheeler St., St. Paul W4, Minn.

▲ For more details circle NED-898 C9 on enclosed inquiry slip ▲

"SILVER" PAPER SHREDDERS FOR COST-CONSCIOUS EXECUTIVES

USED IN THOUSANDS OF PLANTS TO REDUCE PACKING COSTS

TRY THE "SILVER 13-C"

FOR 10 DAYS—FREE!

Reduce your packing material costs as much as 40% by shredding your own paper. The "Silver 13-C's" fast, efficient, low-cost operation and many new mechanical improvements make it the fastest-selling Shredder in the industrial field. 7 other models available, too, depending on your needs and capacity desired. 10-day free trial in your own plant. Write for helpful data on how you can cut your packing costs . . . at the same time, dispose of excess paper materials.

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

▲ For more details circle NED-899 C9 on enclosed inquiry slip ▲

Just turn this wheel for any speed wanted—50 to 3500 sfm—while saw is running!

WALKER-TURNER
16" VARIABLE-SPEED BAND SAW

This W-T 16" Band Saw can be adjusted instantly, *while the machine is running*, to the correct cutting speed for wood, plastics or any metal. Speed changes are fast, smooth and safe, with no lost time for belt or pulley changes.

In addition, this versatile, rugged "Light-Heavyweight" is priced surprisingly low and features big capacity, adjustable saw guides, and quick-change Carter Jiffy Tires. Write for FREE catalog.

WALKER-TURNER
Division of Rockwell Manufacturing Co.
Dept. WC-45, 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-900 C9 on enclosed inquiry slip ▲

✳ Less Machine Down-Time
✳ Increased Tool Life
✳ Better Finishes

Write for Descriptive Literature

If it's Norgren... It's Dependable.
C. A. NORGREN CO.

3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO
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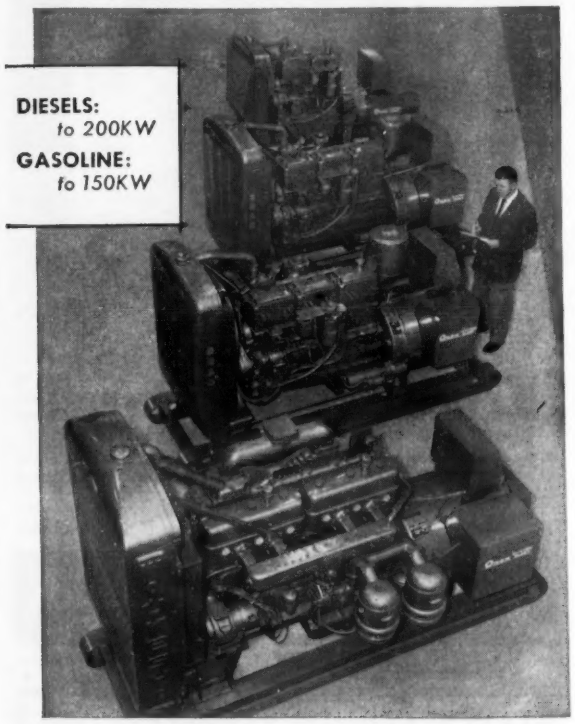
NOW...
Onan Electric Plants to 200KW!



New Magneciter Generator steps up performance*

Now you can have Onan engineering and Onan dependability in high-capacity plants, too! In gasoline-powered models, 100, 125, and 150KW sizes have been added. New diesel models include 10, 15, 25, 35, 50, 60, 75, 100, 125, 150, 175, and 200KW capacities. All standard voltages are available.

All models are powered by heavy-duty industrial engines matched to the power requirements of the generator. Custom modifications to meet particular needs add to the versatility of the line. Automatic controls for standby installations are available for each model. Magneciter generator is standard equipment on units of 100KW and larger.

Magneciter Generator has these advantages:

- **Simplicity** — Eliminates hundreds of connections, the commutator and brush rig.
- **Constant voltage** — Voltage dip is less than 20% with motor starting load. Two-second recovery.
- **Lighter weight, more compact** — Plants are foot shorter, lighter weight.
- **Less maintenance, easier servicing** — Static exciter and regulator are externally mounted and easily accessible.

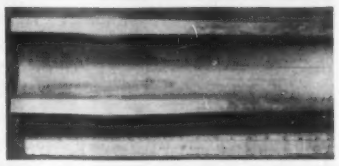
**Onan alternator with static excitation and static voltage regulation.*

Specification kit available. Write for it!
Onan builds electric plants from 500 watts to 150KW, gasoline-powered; 3,000 watts to 200KW, diesel-powered.

D. W. ONAN & SONS INC. Onan ELECTRIC PLANTS
3167 University Ave. S.E., Minneapolis 14, Minnesota
ELECTRIC PLANTS • AIR-COOLED ENGINES • KAB KOOLER • GENERATORS
▲ For more details circle NED-902 C9 on enclosed inquiry slip ▲

New Processes & Materials

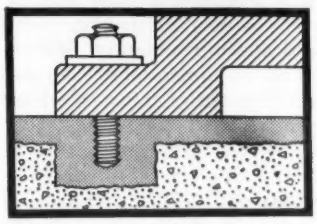
HEAVY-END ALUMINUM PIPE
gives increased strength at joints



Increased strength and thickness at pipe ends where welded or threaded joints are made are offered in heavy end aluminum pipe, produced by a new extrusion process. By increasing the thickness at the ends and eliminating excess thickness in the pipe body (see cross-sectional view), the pipe reportedly offers operating pressures equivalent to standard pipe with cost savings ranging up to 27 per cent. Pipe is also lighter than conventional aluminum pipe. It is presently offered in selected sizes equivalent to many standard Schedule 40 and 80 sizes. Pipe ends are identical to those of standard pipe and can be grooved, threaded, beveled for welding, or prepared for standard mechanical fittings. Made by **Reynolds Metals Co.**, Reynolds Metals Bldg., Richmond 18, Va.

▲ For more details circle NED-903 C9 on enclosed inquiry slip ▲

NONSHRINKING GROUT
incorporates an emery aggregate



Machinery and structural members seat securely in nonshrinking Emeri-Grout, a grouting material that incorporates the exceptionally hard aggregate, Cortland emery. Material can be readily worked into restricted spaces without honeycombing or forming water pockets and it expands slightly as it sets. Unusually ductile, grout will absorb vibration of heavy machinery without breaking down. It is also resistant to erosion by water or oil. Material stands up under 11,000 psi compression and is used for anchoring and maintaining proper alignment of machinery, boilers, generators, compressors, tumbling equipment, presses, engine test stands, blowers, and structural members imposing heavy stresses. Made by **Walter Maguire Co.**, 60 E. 42nd St., New York 17, N. Y.

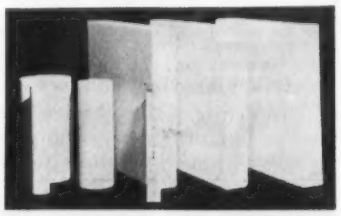
▲ For more details circle NED-904 C9 on enclosed inquiry slip ▲

ELECTRIC INSULATING TAPE
made of glass fiber and plastic

Fifteen per cent elongation, elimination of abrasion between warp and filler threads, and excellent conformability are characteristics of PDG electrical insulating tape. It combines polyester warp, glass fiber yarn, and a silicone coating calendered to one or both sides. Its relatively high tensile strength and elongation permits it to be applied snugly so that it hugs even irregular surfaces. Because there is no friction, glass yarn does not break under flexing and vibration. Tape is available in thicknesses of 0.01 in. and over. It can also be supplied with a semicured silicone coating on one side and a green or unvulcanized coating on the other, suitably protected to prevent rubber transfer. The silicone bonds under heat and pressure. Tape is also usable for making diaphragms and ducting. Made by **H. K. Porter Company, Inc.**, Quaker Rubber Div., Tacony & Comly Streets, Philadelphia 24, Pa.

▲ For more details circle NED-905 C9 on enclosed inquiry slip ▲

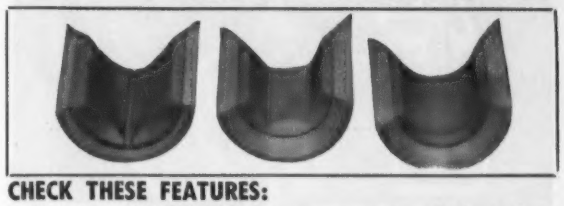
CERAMIC FOAMS
for electrical and electronic use



Light in weight and suitable for use at temperatures exceeding 1000° F, Eccofoam LM-43A and WC-8 ceramic foams can be fabricated with standard tools. Flexural strength remains high at this temperature. LM-43A foam is supplied with dielectric constants of 1.3, 1.4, 1.5, and 1.6. Dissipation factor is below 0.0001. WC-8 is offered in 1.7, 1.8, 1.9, 2.0, 2.5, 3.0, 4.0, and 5.0 dielectric constants and has a dissipation factor below 0.003. Materials weigh below 20 lb per cu ft and between 20 and 70 lb per cu ft, respectively, depending upon the dielectric constant. Made by **Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.

▲ For more details circle NED-906 C9 on enclosed inquiry slip ▲

NEW LOW COST
Corlett-Turner
CARPADS



CHECK THESE FEATURES:

- √ SOLID CARBIDE INSERT is your guarantee of almost indefinite pad life.
- √ CARBIDE SPECIALLY COMPOUNDED for maximum toughness and non-galling characteristics.
- √ GROUND SURFACES—contacting surface of every Carpad is accurately ground whether Rd., Hex., Square or otherwise.
- √ RUGGED SHOCKPROOF DESIGN with heat treated steel backing protects carbide.

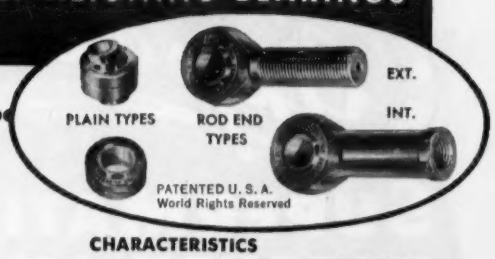
Only Carpads combine the non-galling and wear resistance of Carbide and the Armor Coated strength of Steel.

AVOID DOWN TIME—ELIMINATE FEED FINGER MARKS
Carpads are furnished in Round, Hex., Square etc. No extra charge for decimal sizes. REPRESENTATIVES WANTED.

ATTENTION REPRESENTATIVES: Some areas available for aggressive representation. Write for details.

CORLETT-TURNER CO.
9147 KING ST. • FRANKLIN PARK, ILL.
▲ For more details circle NED-907 C9 on enclosed inquiry slip ▲

SOUTHWEST
"Monoball"
SELF-ALIGNING BEARINGS



CHARACTERISTICS

	ANALYSIS	RECOMMENDED USE
1	Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2	Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
3	Bronze Race and Chrome Steel Ball	For types operating under normal loads with minimum friction requirements.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6" Dia. Rod end types in similar size range with externally or internally threaded shanks. Our Engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. As a result of thorough study of different operating conditions, various steel alloys have been used to meet specific needs. Write for Engineering Manual No. 551. Address Dept. NED59

SOUTHWEST PRODUCTS CO.
1705 SO. MOUNTAIN AVE., MONROVIA, CALIFORNIA
▲ For more details circle NED-908 C9 on enclosed inquiry slip ▲

AMERICAN
SHAFT-KING
SPEED REDUCERS

5 to 350 RPM
Immediate
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delivery

- Exclusive torque-arm overload release
- Performance-proved in over 100,000 installations
- Exclusive taper-bushed mounting
- Write for catalog

The American Pulley Company
PHILADELPHIA 29, PENNSYLVANIA
▲ For more details circle NED-909 C9 on enclosed inquiry slip ▲

IT ROTATES!

• NO STEAM LEAKAGE
• NO WIRE DRAWING

TRERICE PATENTED STEAM TRAPS HAVE A ROTATING VALVE...ASSURING NO LEAKAGE DUE TO WIRE DRAWING

With every discharge, the valve in a Trerice trap seats in a different position . . . a new seat . . . a steam tight seat every time! Discharging water impinges on the impeller . . . causes rotating action.

EASIER MAINTENANCE

A Trerice trap can be inspected and cleaned without removing it from the line, or disturbing the high pressure bolts and gasket.

Removable cap permits quick access to valve and seat for inspection and maintenance.

FREE TRIAL OFFER

We'll supply one, a dozen, or more Trerice steam traps for your operation on a FREE 60-day trial basis. Act now! Write today for bulletin 1400D containing complete engineering data, valve and orifice charts.

H. O. TRERICE CO. 1420A West Lafayette Blvd., Detroit 16, Mich.
Sales Offices in Principal Cities of U.S.A. and Canada

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CUT ANY REFRACTORY SHAPE
ARCH-SKEW-KEY-WEDGE WITH THE ALL-NEW-

Clipper "SAILS RIGHT THRU"

SUPERMATIC MASONRY SAW
with STA-LEVEL HEAD
and
HI-LO CONTROL WHEEL

NO ADJUSTMENTS TO MAKE
No Need to Turn Off Motor to Raise or Lower Cutting Head. Ready to Cut at Any Height From 0" to 17". . . No Levers or Knobs to Pull. No Gears, No Slides or Unnecessary Parts to Wear Out!

YOU NAME IT THE SAW— THE JOB— THE MATERIAL—

. . . Clipper will name the Best Premium Quality Blade . . . Break - Resistant, Abrasive or Diamond, to give you the Fastest Cut . . . at the Lowest Cost . . . with the Greatest Ease . . . Anytime . . . Anywhere! Mail the coupon or call your Clipper Factory Trained Representative for Same Day Service!

Clipper also builds the famous **"Select-A-Notch"** Masonry Saw—the Saw that one man can adjust from his cutting position. priced from **$335**

ORDER YOUR CLIPPER MASONRY SAW ON FREE TRIAL!

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Genuine Clipper Products Sold Direct—Immediate Shipment From Factory Branches Coast To Coast

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☐ Ship a SUPERMATIC Masonry Saw on FREE TRIAL
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☐ Send my Clipper Factory Trained Representative to see me

NAME _____
ADDRESS _____
CITY, STATE

▲ For more details circle NED-911 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Machine & Equipment Templets

The 1959 Repro-Templets catalog of 102 pages lists alphabetically by name and by number every Repro-Templet currently stocked. Repro-Templets are exact ¼-in. scale, two-dimensional facsimiles of space occupied by a machine or piece of equipment, reproduced on adhesive-backed film. The 15,000 templets in stock cover machines, shop equipment, material handling equipment, lab and office equipment, and architectural details. Request copy on company letterhead from Repro-Templets Inc., Oakmont, Pa.

▲ For more details circle NED-912 C9 on enclosed inquiry slip ▲

Coated Abrasives Buyer's Guide

Carborundum Co.—Information kit to facilitate ordering coated abrasives comprises a buyer's guide with reference tables and forms, selector charts for metalworking and woodworking operations, and brochures relative to coated abrasives for the metalworking and woodworking trades. Kit covers sheet, belt, disc, and roll abrasive products.

▲ For more details circle NED-913 C9 on enclosed inquiry slip ▲

Tape Cable—How It's Used

Tape Cable Corp.—Literature file folder contains a series of bulletins on Tape Cable, the flat multiconductor, co-planar cable now available in long lengths. Bulletins describe electrical harness construction with Tape Cable, splicing, hand and dip soldering, field repair, and stripping, as well as dimensions, and mechanical and electrical specifications of this new wiring concept.

▲ For more details circle NED-914 C9 on enclosed inquiry slip ▲

Sonic Energy Applications

Latest facts on sonic energy applications in industry are presented in report entitled "How to Appraise Sonic Energy Cleaning." It explains how sonic cleaning efficiency can be evaluated, analyzes new concepts in sonic energy uses, and outlines the engineering services of this division to help potential users. Write on company letterhead to Bendix Aviation Corp., Sonic Energy, Pioneer Central Div., Hickory Grove Road, Davenport, Iowa.

▲ For more details circle NED-915 C9 on enclosed inquiry slip ▲

Renewable-Media Air Filter

American Air Filter Co.—Construction and operating characteristics of the Model B Roll-O-Matic automatic renewable-media air filter are described in Bulletin 248-C. This machine uses a 65-ft roll of impregnated, reinforced media composed of continuous interlaced glass filaments held in place by a thermosetting plastic bond.

▲ For more details circle NED-916 C9 on enclosed inquiry slip ▲

Scrap & Chip Handling

Prab Conveyors, Inc.—Flexibility and adaptability of Prab equipment for automatic scrap and chip disposal are well illustrated in 16-page brochure S-90. It shows steel belt conveyors for press scrap disposal from press area to railroad cars, chip removing tubular conveyors, and steel belt installations removing turnings, chips, and parts from machine tools.

▲ For more details circle NED-917 C9 on enclosed inquiry slip ▲

Properties of Disogrin

Disogrin Industries, Inc.—Physical, chemical, electrical, thermal, and other properties of Disogrin polyurethane elastomer are discussed in 24-page brochure "There's a Material Difference." Supplied in finished parts or components, Disogrin combines hardness, resilience, and abrasion resistance to a high degree and can displace metal, ceramics, rubber, and other traditional materials for many uses.

▲ For more details circle NED-918 C9 on enclosed inquiry slip ▲

Electric Vibrating Feeders

Jeffrey Mfg. Co.—96-page Catalog 930 on line of electric vibrating feeders and conveyors covers controls, installation methods, operation, and individual unit specifications. Vibrating barrel packers, coolers and dryers, magnetic separators, and bin level indicators are also described.

▲ For more details circle NED-919 C9 on enclosed inquiry slip ▲

When Work Spindles Are Worn

Beaver Industries—This company has developed a special repair service for Brown & Sharpe screw machine spindles which involve special equipment and qualified personnel for repair work. A 4-page booklet describes this new service and quotes prices.

▲ For more details circle NED-920 C9 on enclosed inquiry slip ▲

Advanced Design . . .

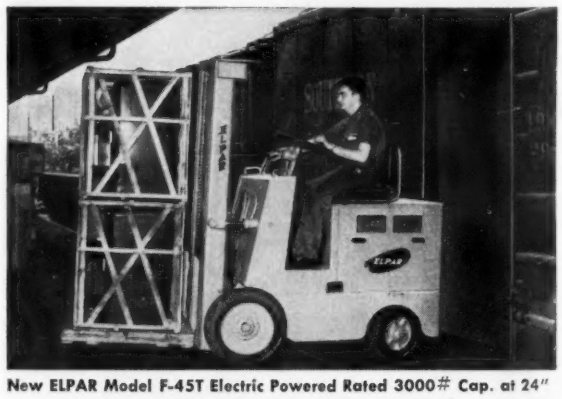
in waste materials disposal systems

The LAKE BALER 1 MARK

The ONLY portable, power-operated baler on the market—Hydraulic, completely self-contained, nothing to lubricate—EFFORTLESS operation, one control lever—Load from any direction—Fast, 16-second cycle—Smooth—Noiseless—Safe—Semi-automatic bale tying—Automatic bale ejection—No installation expense.

Mfd. by LAKE ENGINEERING CO.
312 GOSTLIN STREET P.O. BOX 784
HAMMOND, INDIANA

▲ For more details circle NED-921 C9 on enclosed inquiry slip ▲



New ELPAR Model F-45T Electric Powered Rated 3000# Cap. at 24"

New ELPAR Fork Truck
...built for FAST handling in TIGHT places!

• Faster lift speeds . . . increased travel speeds . . . tighter turning radius . . . shorter wheelbase — are just a few of the important features of this modern ELPAR fork truck, available in 3000 and 4000 pounds capacity.

To get more work done per hour — day in and day out, with maintenance costs at an all time low, investigate this efficient ELPAR electric powered truck.

Write for more details — Ask for the new F-45T bulletin.

ELPAR
THE ELWELL-PARKER ELECTRIC COMPANY
4092 ST. CLAIR AVE. • CLEVELAND 3, OHIO

▲ For more details circle NED-922 C9 on enclosed inquiry slip ▲

WLS...

Will Lead to Savings!

This illustration (approx. ½ actual size) of an actual part produced by SPEEDTOOLING for one of our customers represented a savings of 83% over previous production methods.

Yes, WLS SPEEDTOOLING for small quantity stamping needs is a saver every time! A radical production advancement, it eliminates most of the cost required for permanent dies. Finished parts are produced to tolerances as close as those held by conventional methods costing ten times as much. When jobs are completed WLS SPEEDTOOLING is stored for future use.

Use WLS for production quantities up to 100,000 when low cost, fast delivery and possible design changes for virtually nothing, are important factors!

COMPLETE FACILITIES
• Blanking
• Forming
• Piercing
• Drawing
• Extruding
• Stenciling
• Tapping
• Countersinking
• Plating
• Machining
• Painting
• Grinding
• Welding

FREE
FOR THOSE MANUFACTURERS WHO ARE FACED WITH MANUFACTURING PROBLEMS WE OFFER A FREE BULLETIN ILLUSTRATING MANY STAMPINGS WE HAVE PRODUCED FOR MANUFACTURERS AS WELL AS A SAMPLE AND COST SUMMARY OF AN ACTUAL PART. WE ALSO OFFER FREE QUOTATIONS FROM YOUR BLUEPRINTS AT ANY TIME.

WLS STAMPING COMPANY
3287 E. 80th Street • Cleveland 4, Ohio

▲ For more details circle NED-923 C9 on enclosed inquiry slip ▲

Exciting new best seller! Yours FREE!

Wilton's new "book" is more than a catalog! It's actually a production know-how manual that shows you in-plant photos and operating case histories of how Wilton clamping tools (both manual and powered) have been used by the best brains in the business to save production time and money. Of course we show our line, and that too is unique—**Wilton has the most complete line of clamping tools in the world.** Write for your copy now; it's an education that will pay dividends in your plant. No obligation, of course.

WILTON

Tool Manufacturing Co. Inc., NED 39 / Schiller Park, Illinois

▲ For more details circle NED-924 C9 on enclosed inquiry slip ▲

Save gallons of paint on every big job with new Graco Hydra-Spray process. Move Hydra-Spray right to job, spray direct from original ten gallon pail or drum. Graco Hydra-Spray gives 50% more coverage with virtually no overspray or bounceback. No pressure on container . . . no air in paint. Cuts spray cost by making 7 gallons do the work of ten, without excessive solvents.

Saves time too! Permits heavier paint film, often eliminates second coat. Less masking needed; clean-up time reduced. Low operating costs: Less air used, no heaters, no exhaust units. Only one hose required to gun. You save time, effort, cut costs.

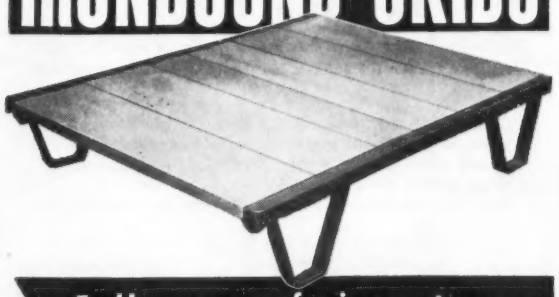
FREE IDEA BOOK SHOWS GRACO PUMPS FOR EVERY NEED. SEND FOR IT TODAY!

GRACO
37 Graco Square
Minneapolis 13, Minnesota

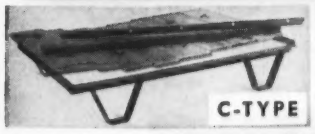
(See Phone Book Yellow Pages, Spraying, for Graco Suppliers)

▲ For more details circle NED-925 C9 on enclosed inquiry slip ▲

IRONBOUND SKIDS

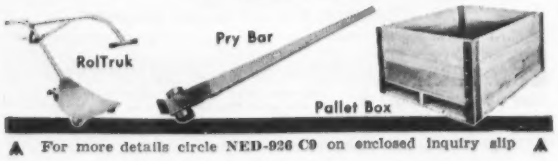


Full range of sizes, types, capacities, underclearances!



Bolted and welded construction of C-type skids feature easy deckboard replacement.

Ironbound — **IRONBOUND**
55 Hoffman Place • Hillside, N. J.



▲ For more details circle NED-926 C9 on enclosed inquiry slip ▲

New Processes & Materials

TAPERED SLOT SCREEN
design prevents material pile-up

Consisting of a series of wedge-shaped wires, looped at 2¾-in. intervals around cross-rods at right angles to the wires, Taper-Slot preparation screen has openings which taper gradually between the loops. Design enables materials that would normally lodge between the wires to be transported by the mass flow to the larger end of the tapered slot. At this point, material either passes through the screen or becomes loose and continues on with the material flow. Dips at the loops contribute to material flow and prevent pile-up or blinding. Tapers and combinations of opening sizes are custom made for specific applications by **Wedge-Wire Corp.**, Wellington, Ohio.

▲ For more details circle NED-927 C9 on enclosed inquiry slip ▲

SOLDER ALLOY
applied with torch or iron

Capillary joining of steel, nickel, stainless steel, copper, Monel, aluminum bronze, beryllium copper, Elkonite, and aluminum is possible with Ambraze No. 4300 solder alloy. The finished joint can be chrome plated. The silver bearing solder complies with pure-food laws and is nontoxic. Thin gage and dissimilar metals can be joined without warping by torch or soldering iron. Melting point is 425° F, tensile strength is 14,000 psi, and copper-to-copper shear strength is 11,200 psi. It is available in 1/16, 3/32, and ⅛ sizes in 1-lb spools. Made by **American Brazing Alloys Co.**, Box 11, Pelham, N. Y.

▲ For more details circle NED-928 C9 on enclosed inquiry slip ▲

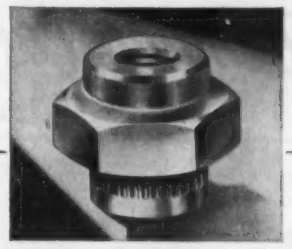
ENAMELED ALUMINUM
vitreous finish is color fast

Fusing of vitreous enamel to aluminum offers a material that is resistant to impact, chemicals, abrasion, heat, fading, streaking, or staining. Porcelain enamel on aluminum also increases the metal's rigidity. Signs, nameplates, dials, scales, and parts fabricated from porcelain on aluminum will not spall under any method of mounting or securing. Designs and lettering in a range of colors are fused to the metal. A variety of surface textures is available. Service offered by **Argosy Industries, Inc.**, N. Main & Grove Streets, Middletown, Conn.

▲ For more details circle NED-929 C9 on enclosed inquiry slip ▲

THE LEADING "COMPLETE" LINE OF HOT STAMPING EQUIPMENT

▲ For more details circle NED-930 C9 on enclosed inquiry slip ▲



How FLEXLOC Microsize Clinch Nuts improve your product reliability

Drill a hole in any thin-section material, insert the knurled hollow shank of a 1-piece FLEXLOC, clinch it, and you have a permanently anchored self-locking all-metal nut as an integral part of the material. The overall reliability of your product is improved because the FLEXLOC nut will never loosen its grip on the screw even under extremes of vibration, impact or shock. It is not affected by moisture, dryness or oil.

For complete information on FLEXLOC Microsize Clinch Nuts, contact your authorized SPS distributor. Or write Flexloc Locknut Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

We also manufacture precision titanium fasteners / write for free booklet

SPS Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

▲ For more details circle NED-931 C9 on enclosed inquiry slip ▲

FREE! New 48-page booklet on MAGNETS

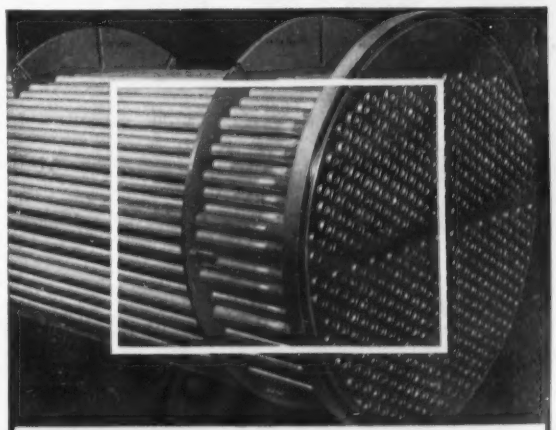
Complete product and application information on non-electric magnetic equipment for separation, vibration and automation needs

Send for your copy of this big, new comprehensive booklet that shows how Eriez non-electric magnets serve varied industries. Numerous illustrations, diagrams, actual installation photos, etc. Eriez magnetic equipment is used to separate, retrieve and purify ferrous from non-ferrous materials; to convey, control and elevate ferrous materials or finished parts ranging from small pieces to large sheets and pipe; to *vibramatically* move and feed bulk materials at variable rates of flow.

Whatever your product—and whatever your magnetic problem—you'll find the answer in this handy booklet. Write today to Eriez Mfg. Co., 80-Q Magnet Dr., Erie, Pa.

ERIEZ

▲ For more details circle NED-932 C9 on enclosed inquiry slip ▲



Transferring Heat?

. . . then look at the comparison above. The white rectangle in the photo represents the surface area of a length of plain tube. The entire photo shows the surface area of a piece of Wolverine Trufin® Type S/T of the same length. Both tubes are ¾" O.D. This is dramatic proof of the extra *surface* area Trufin provides. Yes, you get extra *service* too. Write.

WOLVERINE TUBE
DIVISION OF CALUMET & HECLA, INC.
17270 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

▲ For more details circle NED-933 C9 on enclosed inquiry slip ▲

Cuts Bending Costs

AS MUCH AS 50%

NEW PINES 3T PRESS

Makes Bends Progressively To Varied Angles In Multiple Planes

Quality bends at production speeds that are 2 to 3 times faster than conventional methods, are now possible with the new Pines 3-T Bending Press. Many tubular parts in sizes ranging up to 1" O.D. are now formed at net speeds in excess of 1000 bends per hour. Up to 9 different bend angles can be produced in a single setup. Adjustable automatic indexing stops accurately control depth of ram stroke. Open tooling area permits rapid progressive bending in varied planes. High production speed is just part of the story. Unusually smooth, good looking bends are also produced to meet the quality demands of automotive, furniture, toy, office equipment, and appliance manufacturers. Wing dies are designed to move in ways as a bend is made, and their pivoting action is hydraulically cushioned through bearing-mounted rocker arms. This principle eliminates scratches or draw marks and produces wrinkle-free bends with very little distortion.

PINES ENGINEERING CO., INC. (Specialists in Tube Fabricating Machinery) 659 WALNUT • AURORA, ILLINOIS

FREE DATA SHEETS Get the complete cost cutting story on this Press today. Larger models for tubes to 2" O.D. available.

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

▲ For more details circle NED-936 C9 on enclosed inquiry slip ▲

Tempilstik°

temperature indicating crayons*

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

Send for free sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

▲ For more details circle NED-937 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Truck Body Builder's Guide

The "1959 Ford Body Builder's Layout Book" is an 84-page compilation of specifications and designs for 370 Ford truck models. It is published annually to assist body manufacturers in installing their equipment on Ford chassis. It is available free only to truck body makers and distributors who write for it on their company letterhead to Ford Motor Co., Ford Div., Box 608, Dearborn, Mich.

▲ For more details circle NED-938 C9 on enclosed inquiry slip ▲

Air & Hydraulic Control Valves

Beckett-Harcum Co.—Details and specifications on Hi-Cyclic air and hydraulic control valves in 1/8 to 1-in. NPT sizes and manual, electric-mechanical, and pilot-actuated types are given in 8-page bulletin.

▲ For more details circle NED-939 C9 on enclosed inquiry slip ▲

Production Counters

Mast Development Co.—Special-purpose counters, designed and built to meet specific needs, are covered in illustrated brochure. Examples of custom-built mechanical-digital and pulse type counters as well as additive and subtractive types with remote preset and reset features are included.

▲ For more details circle NED-940 C9 on enclosed inquiry slip ▲

Wire Cloth for Every Purpose

Unique Wire Weaving Co.—Plain, twill, Dutch, micronic, and special weaves are available in Unique wire cloth which can be produced with any mesh ranging from coarse to extra-fine. Types of weaves are pictured in 1959 catalog, and dimensional information is given for all types. Cloth can be produced in many metals ranging from ferrous and nonferrous through alloy and precious types.

▲ For more details circle NED-941 C9 on enclosed inquiry slip ▲

Time Switches & Controls

Tork Time Controls, Inc.—"How to Select a Time Switch" is subject of 8-page condensed Catalog 159. Such factors as switch action, wiring, time cycles, and application need are discussed. Controls described include seven day, week-end skip, astronomic, three-pole, 55-amp, signal timer, and intermittent program types. A simple formula for the selection of the proper timing is given.

▲ For more details circle NED-942 C9 on enclosed inquiry slip ▲

Steel Drums

Bennett Industries, Inc.—Specifications with drawings are offered on Bennett universal standard 55-gal steel drums with open and closed heads in convenient file folder. Information is also provided on the Dura-Prime process for cleaning and phosphating drums to inhibit rust and corrosion, and for better paint and lining adhesion.

▲ For more details circle NED-943 C9 on enclosed inquiry slip ▲

Polishing & Buffing Machines

Wilson Buffing Chuck & Machine Co.—Reciprocating, straight line, rotary, and conveyor types of polishing and buffing machines are described in illustrated 6-page folder. Conveyors for mounting single or multiple heads and standard buffing head types are shown.

▲ For more details circle NED-944 C9 on enclosed inquiry slip ▲

Standard Fastener Line

Standard Pressed Steel Co.—Socket screw products, pressure plugs, locknuts, spring pins, dowel pins, and steel collars are among the standard precision industrial fasteners described in 8-page condensed Bulletin 2449. Unbrako, Flexloc, Sel-Lok, and collar lines are treated. Application data are given.

▲ For more details circle NED-945 C9 on enclosed inquiry slip ▲

Pulse Transformers

PCA Electronics, Inc.—Brief history of low level pulse transformers, their measurements, specifications, applications, interchangeability, dielectric ratings, and other data are presented in 24-page catalog. Many tables, charts, and schematics are included, along with data on 2000 standard transformers.

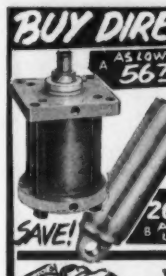
▲ For more details circle NED-946 C9 on enclosed inquiry slip ▲

Stencil & Layout Inks

Reynolds Ink, Inc.—Aerosol products described in 4-page Bulletin 58 are stencil inks, available in nine colors; layout ink; Stencil-Kover, a tan obliterating fluid; Sherolite, a waterproofer; Penetrol rust preventive; and colloidal graphite lubricant. Typical applications are shown.

▲ For more details circle NED-947 C9 on enclosed inquiry slip ▲

BUY DIRECT! SAVE AT PALLEY'S



A AS LOW AS 56.75

SAVE!

20.75 B AND UP

NEW PALLEY HYDRAULIC CYLINDERS — Here are two of our newly developed line of double action industrial Hydraulic Cylinders. These cylinders are designed to meet the most rigid requirements of industry. All are heavy duty steel construction.

Type (A) is a heavy duty, press type cylinder with bores of 3", 5", 6" and 8" — thrust range up to 75 TONS at 3000 PSI.

Type (B) is an internal cap type cylinder with bores of 1½", 2", 2½", 3", 3½" and 4". Has strokes from 2" to 48". Delivers up to 18,850 lbs. thrust on 1500 PSI line pressure.

For complete listing of our tremendous stocks and prices — Send for our Special Hydraulics Catalog.

VICKERS HYDRAULIC ANGLE PUMPS

Save up to 50% on these Piston type, positive displacement Hydraulic Pumps. Made to top Government Specifications.

Part No.	G.P.M.	PSI	RPM	Price
H-P4A	5.3	1000	3000	$22.50
H-P5A	2.7	1500	3000	25.75
H-P4U	6	1000	3000	22.50

1500 PSI Double Action HYDRAULIC CYLINDER NEW

Good for clutch or throttle control when used as a master & slave. Has 5/8" bore, 4-1/8" stroke, 7/16" shaft, 9-5/8" closed length. 1/4" tube ports (7/16–20 thread).

No. H-60 ONLY . . . 3.75

HYDRAULIC ACCUMULATORS

A 3000 PSI Bendix ball type Accumulator. Top condition.

No. H-5½ — Has 5-1/2" dia. . . $27.50
No. H-A7 — Has 7" diameter . . 32.50

2000 PSI Ball ACCUMULATORS

No. H-A5SU — Vickers. 10" dia. $24.50
No. H-A5A — 5½" dia. NEW . . . 15.75
No. H-A5AU — 5½" dia. Used . . 10.75

NEW 3-TON SPUR GEAR CHAIN HOIST 179.50

WORTH $300

Army type with spur geared block. Constructed of steel & malleable iron. Chain drive. Use wherever an overhead trolley hoist is needed. Will handle up to 3 TONS. Model 41. Made by Chester White Mfg. Weight: approx. 540 lbs. Unused, good cond.

GRAVITY CONVEYOR

Has 500 lb. per ft. cap. 12" wide curved steel frame. 5 rows of 2" diameter, 5/8" face, ball bearing steel wheels. Each unit will lock to next. Has 45° curve. NEW!

14.95

Pay by M.O. or Check. P.O.s accepted from D&B firms rated F2½or better. 1/2 deposit with C.O.D.s. Prices F.O.B. Los Angeles Whse.

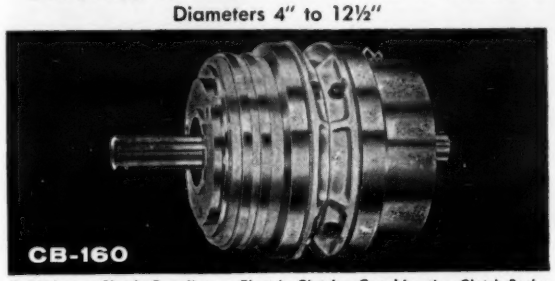
palley's 2263 E. Vernon Ave. Dept. NED-39, Los Angeles, Calif.

▲ For more details circle NED-948 C9 on enclosed inquiry slip ▲

now presenting . . . Simplatrol

LARGER SIZES CLUTCHES & BRAKES

Diameters 4" to 12½"



CB-160

5 Styles • Clutch Coupling • Electric Clutch • Combination Clutch-Brake Electric Brake • Duplex Clutch

Three Ways Best for Automated Control

1 Simple Design—exclusive diaphragm is only moving part, obsoletes conventional clutch or brake made up of numerous troublesome parts.

2 Easily Mounted—precision machined ready for mounting, saves hours of installation labor.

3 Dependable—extra long life as well as quick, quiet response due to absence of moving parts which can wear and need repair.

Simplatrol Electric Clutches and Brakes simplify and upgrade machines you make or use. Ask for recommendations on Simplatrol units.

Send for new "larger sizes" folder

Simplatrol products corp.
24-6 SALISBURY ST., WORCESTER, MASS.
Representation in Key Industrial Areas

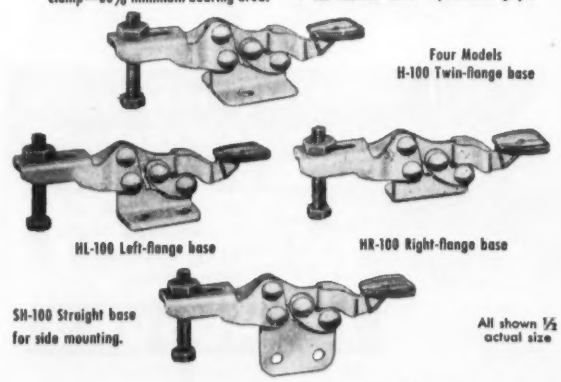
606-7

▲ For more details circle NED-949 C9 on enclosed inquiry slip ▲

MINIATURE KNU-VISE CLAMPS DO MIGHTY JOBS

These tiny Knu-Vise toggle clamps are capable of exerting 100 to 150 Lbs. clamping force with a reach of 7/8 and 9/16 inch respectively in front of base. Other features are:

- Clamping height, 19/32 above base.
- Double shear bearing pins prevent clamping spindle side-thrust or tilt.
- Largest diameter pins for size of clamp—80% minimum bearing area.
- When open, spindle head withdraws beyond front of base, permits vertical removal of largest parts.
- All models have replaceable grips.



Four Models H-100 Twin-flange base

HL-100 Left-flange base

HR-100 Right-flange base

SH-100 Straight base for side mounting.

All shown ½ actual size

Write—TODAY, to Dept. A—for complete information.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS LAPEER MANUFACTURING CO.

3062 DAVISON ROAD
LAPEER, MICHIGAN

WESTERN DIV.: PECK and LEWIS CORPORATION 4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1121 Pettit Road, Burlington, Ontario

▲ For more details circle NED-950 C9 on enclosed inquiry slip ▲

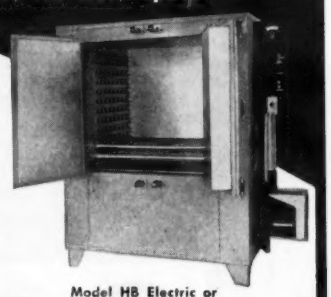
STAPLES FILLED CARTONS FROM THE OUTSIDE!

Designed for
SPEED! Push the lever—the carton is closed and ready for shipment! No drying time to tie up production.
ECONOMY! No wasted material . . . no wasted set-up space. Fill, staple—and ship!
SECURITY! International-stapled cartons stay closed. Humidity or humanity—they're pop-proof, pilfer-proof!
WRITE for illustrated literature.

International Gold Crown ISM — STEEL STAPLES SEAL SECURELY

International Staplers
INTERNATIONAL STAPLE & MACHINE COMPANY
Originators of Carton Closing Staplers
P.O. BOX 270 • HERRIN, ILLINOIS
For more details circle NED-951 C9 on enclosed inquiry slip

Precise engineering and construction result in
UNIFORM HEAT
throughout the work space



- High velocity recirculating blowers
- Greater heat input
- Adjustable louvres for balanced airflow
- Superior heat seals

All combine to provide *excellent temperature uniformity* in these rugged cabinet ovens.

Model HB Electric or Gas Cabinet Oven

30 Standard Models
- Work space from 4.6 to 72.3 cubic feet
- Temperature ranges from 100 to 1250° F.
- Electronic combustion devices insure safety for gas fired models
- Indicating control instrument
- Factory tested

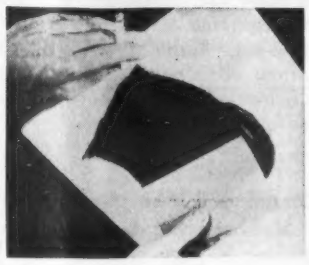
Other ovens from $110.50 up, including a complete line of laboratory, bench, cabinet, walk-in, and custom-built units.

Write for literature to help you select the right oven for your application
Specialists in Heat Process Equipment

GRIEVE-HENDRY CO.
1408 W. Carroll Ave., Chicago 7, Ill.
For more details circle NED-952 C9 on enclosed inquiry slip

New Processes & Materials

PLASTIC FOAM ADHESIVE
nonflammable and heat resistant



Rigid and semirigid expanded polystyrene foams such as Styrofoam and Dylite can be bonded to themselves and wood, concrete, metals, and other materials by Bondmaster G459 adhesive. A water-dispersed product, it precludes danger of solvent attack on the foam cells. Tools and equipment are easily cleaned with water before the nonflammable, high strength, heat resistant, static body adhesive dries. Bonds resist humidity and freezing temperatures, and maintain strength from −35 to 250° F. Application is with trowel, spatula, notched spreader, caulking gun, push box, paint roller, brush, or spray gun. Made by **Rubber & Asbestos Corp.**, Dept. P, 225 Belleville Ave., Bloomfield, N. J.

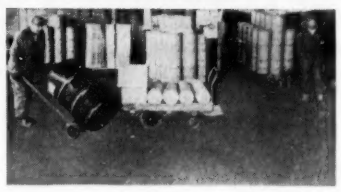
For more details circle NED-954 C9 on enclosed inquiry slip

ELECTRICAL METALLIC TUBING
has two protective coatings

Walker electrical metallic tubing is twice protected from corrosion, first by a zinc coating applied by the Sherardizing process and secondly, by Dualbrite, a special corrosion-resistant coating. The outer finish, compared to former Dualcote coating, has improved resistance to acid, salt spray, and alkalies. Dualbrite tubing is silver-gray in color and has a highly polished, slippery surface which facilitates fishing and pulling of wires and cables. Finish has excellent resistance to mechanical injury, and withstands right angle bends to 3½-in. radius with no damage to tubing or finish. Made by **Walker Brothers**, Conshohocken, Pa.

For more details circle NED-955 C9 on enclosed inquiry slip

CONCRETE FLOOR TREATMENT
seals, hardens, and dustproofs



Easily and quickly applied with lamb's wool applicator or mop, Plio Con seals, hardens, and dustproofs new or existing concrete floors. It is reported to protect and extend the life of the concrete as well as making it easier to clean. It sets dust-free in 1 hr and dries to the touch in 3 hr. It blends readily for easy touch-up and will not discolor with age. Made by **Monroe Co.**, 10703 Quebec Ave., Cleveland 6, Ohio.

For more details circle NED-956 C9 on enclosed inquiry slip

STACKPOLE
CERAMIC
MAGNETS

THE PERMANENT MAGNETS THAT ARE REALLY PERMANENT

It's next to impossible to demagnetize Stackpole Ceramagnet® (ceramic) permanent magnets under any normal use! They permit simplified low-cost equipment assemblies — no keepers or pole pieces needed! Can be magnetized either before or after assembly. Many other advantages! Write for Ceramagnet Bulletin RC-11A.

STACKPOLE CARBON COMPANY
St. Marys, Pa.

For more details circle NED-957 C9 on enclosed inquiry slip

the Right Combination...
QUALITY

"the CHALLENGER"
$397.50 complete
1500 lb. capacity
Model 1056—battery operated

PRICE

"the DRUM HANDLER"
$890.00 complete
1000 lb. capacity
Model 3062—battery operated

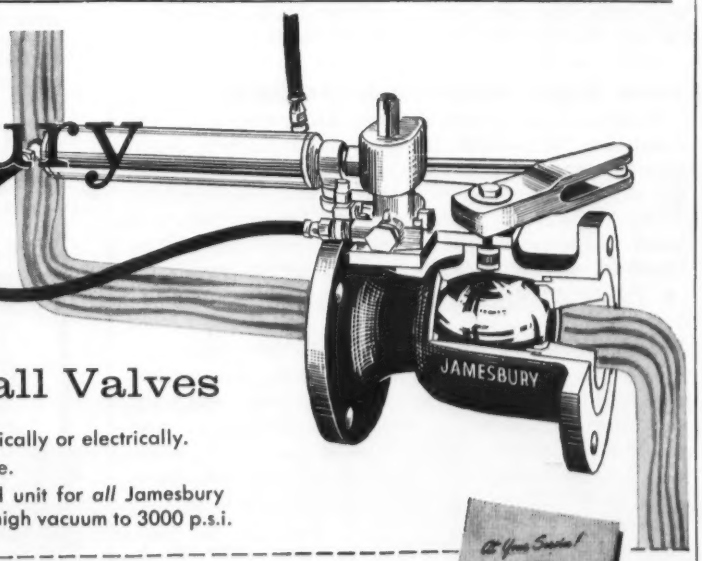
SELECTION

"the TELESCOPIC 99"
$699.00 complete
1000 lb. capacity
Model 9972T—battery operated

MORE THAN 80 BIG JOE MODELS

Hydraulic Handling for EVERY Department
BIG JOE Manufacturing Company
Vernon Blvd.
Wisconsin Dells, Wisconsin
For more details circle NED-958 C9 on enclosed inquiry slip

Double-Duty with Jamesbury REMOTE OPERATORS* for "Double-Seal" Ball Valves



- Operated hydraulically, pneumatically or electrically.
- "Fail-Safe" constructions available.
- Available as a factory pre-tested unit for *all* Jamesbury "Double-Seal" Ball Valves: from high vacuum to 3000 p.s.i.

*Standard speed for closure: less than ¾ of a second. Faster speeds available on request.

Distributors In Principal Cities. Get The Complete Facts On All Jamesbury Products.

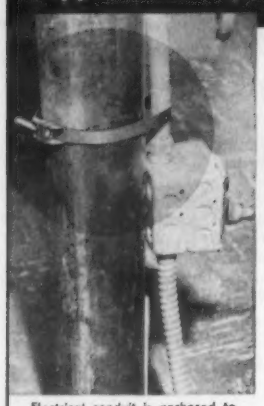
Name _____ Title _____
Company _____
Address _____
City _____ State _____
☐ Jamesbury Literature
☐ Distributor Service

JAMESBURY CORP., 125 NEW STREET, WORCESTER, MASS.

683-8

For more details circle NED-953 C9 on enclosed inquiry slip

MARMAN Bracketmaster Clamp Supports Components and Tubing



Universal Bracketmaster Clamps are simple in design, yet strong and long wearing on outdoor or in-plant applications. Ideal for signs, ducts, conduit and component support. Stainless steel strap conforms to irregular shapes, self-locking latch is completely vibration resistant. Two sizes, for diameters from 2" to 8".

Electrical conduit is anchored to pole on temporary installation.

7510 Universal Bracketmaster Clamp

Bracketmaster is an Aeroquip Trademark

MARMAN DIVISION Aeroquip Corporation

INDUSTRIAL SALES DEPARTMENT
11214 EXPOSITION BLVD., LOS ANGELES, CALIFORNIA
IN CANADA: AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO
Marman Products are Covered by U.S. and Foreign Patents and Other Patents Pending

▲ For more details circle NED-959 C9 on enclosed inquiry slip ▲

Put POWER to work and SAVE SWEEPING DOLLARS!

NEW WAYNE 703

Here is sweeping made fast, easy and economical!

This all new Wayne 703 Power Sweeper cleans up to 40,000 square feet per hour, indoors or out...digs in and digs out the dirt...fills its filtered hopper to its full 3 cubic foot capacity... maneuvers in and out of tight spots everywhere.

Eliminate costly hand sweeping in congested areas, get *cleaner* sweeping, and sweep many times more area day in and day out for pennies per hour! Write, today, for full details on this new Wayne 703—*the little sweeper with the big performance features!*

Priced for Small Budgets • Filter-Vac Dust Control
Fingertip Controls • Fully Powered • Forward-Reverse Travel • Rider Attachment • Streamlined

WAYNE MANUFACTURING COMPANY
2374 EAST LEXINGTON STREET, POMONA, CALIFORNIA
Pomona • Chicago • Newark • Export: Henry R. Jahn & Sons, Inc., New York

▲ For more details circle NED-960 C9 on enclosed inquiry slip ▲

To Identify Stainless Steels

send for your Chart *Today!*

To identify stainless steels that may have become mixed in stock —or stainless scrap—use Carpenter's chart for segregating stainless steels. It illustrates and explains how and when to use each of 12 tests. Typical reactions are given for the nitric acid, magnet, spark, hardness, muriatic acid, sulphur spot, nickel spot, and stabilization tests. Return the coupon below for your copy now.

THE CARPENTER STEEL COMPANY
118 W. Bern St. • Reading, Pa.

Gentlemen: Without obligation, please send me your chart for identifying Stainless Steels.

NAME_____ TITLE_____
(Please Print)
FIRM_____
ADDRESS_____
CITY_____ STATE_____

▲ For more details circle NED-961 C9 on enclosed inquiry slip ▲

New Literature & Catalogs

Air Conditioning Vibration Control

Vibration Mountings, Inc.—Latest data on control of noise and vibration transmission from air conditioning equipment through proper mounting are outlined in 4-page Bulletin VAC-12. Minimum vibration isolation efficiencies and theoretical material isolation efficiencies based on revolutions-per-minute are charted for quick cross reference.

▲ For more details circle NED-962 C9 on enclosed inquiry slip ▲

Cleaning & Phosphating Metals

Malsbary Mfg. Co.—Well illustrated with on-the-job photos, 16-page manual tells "How to Clean & Phosphate Metals in One Operation at Low Cost." It describes methods of application, explains where the steam cleaner method best fits, cites specific installations, and provides figures on both installation and operating costs.

▲ For more details circle NED-963 C9 on enclosed inquiry slip ▲

Tube Form Mountings

Lord Mfg. Co.—Full bonded tube form mountings and Dynaflex joints featured in 12-page Bulletin 713 are engineered for vibration and shock control. Mountings isolate steady-state vibration and are used throughout industry. Dynaflex joints are used at pivot points to provide controlled flexibility between connected parts, and to depress noise.

▲ For more details circle NED-964 C9 on enclosed inquiry slip ▲

Granite Surface Plates

Pratt & Whitney Co.—Precision granite surface plates, toolmakers' flats, straightedges, parallels, and angle plates are subject of 8-page Circular 621. Surface plates are lapped to over-all accuracy as close as 25 millionths of an inch. Ordering and size information are provided.

▲ For more details circle NED-965 C9 on enclosed inquiry slip ▲

Industrial Cellular Materials

B. F. Goodrich Co.—Properties and applications of industrial cellular rubber and plastics are illustrated and described in 8-page pamphlet. Sponge rubber, neoprene, silicone sponge, Cell-Tite (an expanded closed cell rubber) and cellular vinyl are covered. Materials are available in sheet, cut shapes, pad stock, strips, tubing, cord, and molded forms for sealing, vibration damping, shock absorption, insulation, and flotations.

▲ For more details circle NED-966 C9 on enclosed inquiry slip ▲

Construction Data

A. C. Horn Companies—Created for the architect, builder, engineer, and contractor, pocket-size 1959 Horn Construction Data Handbook devotes over 40 pages to tables and charts for estimating building material requirements. Mensuration tables, construction details, and authentic data on painting and concrete work are included. Products for protecting and decorating concrete, metal, and wood are reviewed.

▲ For more details circle NED-967 C9 on enclosed inquiry slip ▲

Strain Gages, Instruments & Accessories

Baldwin-Lima-Hamilton Corp., Electronics & Instrumentation Div.—Over 250 types of SR-4 strain gages, instruments, and accessories are listed in a new catalog with complete electrical and physical specifications. Many etched foil gages for high, intermediate, and room temperature applications are listed, as well as standard, semistandard, and special wire gages.

▲ For more details circle NED-968 C9 on enclosed inquiry slip ▲

Plastic Washers, Spacers & Bushings

Pipco International Corp.—Latest listing covers more than 2000 washers, spacers, rollers, bushings, and bearings made of nylon, polyethylene, Hi-Density and linear polyethylene, Tenite-butyrate, and vinyl. Overall diameters range from ¼ to over 2 in., hole diameters from 1/12 to 1½ in., and thicknesses from 1/20 to over 2 in.

▲ For more details circle NED-969 C9 on enclosed inquiry slip ▲

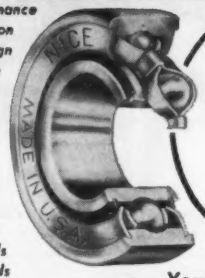
Monitoring Radiation with Film

Eastman Kodak Co.—20-page booklet "Radiation Monitoring with Kodak Personal Monitoring Films" outlines information on the four types of Kodak film used for these purposes. Films are designed primarily to be worn by individuals in monitoring badges. Booklet reviews the photographic method of obtaining accurate and permanent records of radiation dosage incurred by individuals and by specific areas.

▲ For more details circle NED-970 C9 on enclosed inquiry slip ▲

***BEARING SELECTION IS AN IMPORTANT FACTOR**
In 12 out of 14 Design Engineering Problems . . .

*Decreased maintenance
*Automatic operation
*New product design
Materials selection
*Quieter operation
*Reduced costs
*Higher speeds
*Easier operating controls
*Weight reduction
*Greater precision
*Reduced vibration
*Production methods
Lubrication methods
*Improved appearance



Can NICE Help YOU?

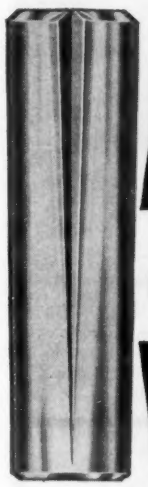
Your Inquiries are Invited

NICE

NICE BALL BEARING CO.
NICETOWN • PHILADELPHIA • PENNSYLVANIA
DIVISION OF CHANNING CORPORATION

▲ For more details circle NED-971 C9 on enclosed inquiry slip ▲

now-
SHEAR-PROOF ALLOY STEEL



DRIV-LOK PINS *for maximum resistance to*

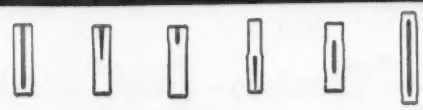
shear *shock* *fatigue*

- Drill a hole and drive them in . . . they're grooved and self-locking
- Provide the ultimate in physical properties at moderate cost
- Re-usable without loss of holding power

Now, you can get the efficiency, convenience and proven economy of DRIV-LOK Grooved Pins PLUS maximum resistance to shear, shock and fatigue, by specifying or installing *Shear-Proof* DRIV-LOK Pins. Made of alloy steel, heat treated to provide optimum physical properties and high shear values, Shear-Proof DRIV-LOK Pins are designed for critical applications where ultimate strength and reliability are mandatory. They are replacing alloy dowels, bolts, key and set screw assemblies, hollow pins (used singly, or one inside the other) in widely varied applications . . . thus saving time, labor and material. Write for special Shear-Proof DRIV-LOK Pin Catalog. Sample Type A Shear-Proof Pins furnished free on request.

type A standard

SPECIAL TYPES TO ORDER . . .



A3 B C D E U

COMPARE TYPICAL SHEAR VALUES (Minimum double shear strength in pounds)	Diameter	Slotted Spring Pins	Coiled Spring Pins HEAVY DUTY	SHEAR-PROOF DRIV-LOK PINS
	3/32	1000	1030	2040
	1/8	2100	1840	3690
	5/32	3000	2880	5720
	3/16	4400	4140	8240
	1/4	7700	7360	14720
	5/16	11500	11500	22960
	3/8	17600	16580	33160
	7/16	20000	22540	45000
	1/2	25800	29440	58900

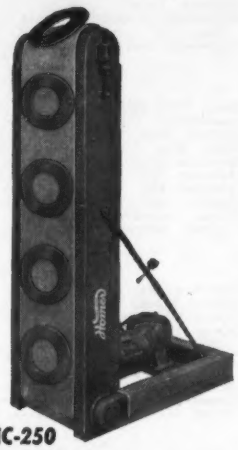
DRIV-LOK SALES CORPORATION
717 PARK AVENUE • SYCAMORE, ILLINOIS

▲ For more details circle NED-972 C9 on enclosed inquiry slip ▲

HOMER "Space Saver" MAGNETIC CONVEYORS

AUTOMATE PRODUCTION —CUT LABOR COSTS —REDUCE REJECTS in handling ferrous parts and scrap

- Automatically transfer parts, feed machines and stack parts in multiple machine operations. Convey on underside of belt for parts turn-over.
- Powerful permanent magnetic assembly securely holds and conveys ferrous parts and scrap up inclines as steep as 90° . . . without belt cleats or buckets. No loss of parts or scrap from belt resilience or bouncing over belt cleats.
- End damage to critical finish of parts as a result of parts riding against belt cleats or jamming in flapper gates.
- Steeper inclines permit close grouping of machinery to save floor space.
- May be loaded at any angle . . . at floor level or any level above floor from other conveyors, chutes or machines.
- Standard and custom models available.



WRITE TODAY FOR BULLETIN MC-250

HOMER MANUFACTURING DIVISION
DEPT. 125 • LIMA, OHIO

▲ For more details circle NED-973 C9 on enclosed inquiry slip ▲

another new exclusive GRC idea

GRC die cast zinc alloy
washer base
CAP NUTS

GRC makes new exclusive low cost fasteners with Integral Washer Bases for better fastening performance and appearance. Won't mar soft surfaces. Use with oversize or offset holes: Prevents wrench marks. All these advantages at no extra cost to you.

Use standard diameter nuts wherever regular cap nuts would be used alone—full diameter nuts wherever regular cap nuts would be used with separate washers.

Standard thread sizes from #4 through ½"—14 hex sizes.

- Rustproof and corrosion resistant
- No tool marks or cut off burrs
- Save assembly time—inventory cos.

Cap Nuts & Wing Nuts in widest range of styles & sizes. Write today for catalog.

Both closed end and open end washer base cap nuts available with full & standard washer diameters. In addition GRC has the most complete stock of standard CAP NUTS.

GRIES

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y.
NEw Rochelle 3-8600

Be sure to see GRC at the IRE Show—Booth 4108

▲ For more details circle NED-974 C9 on enclosed inquiry slip ▲

WATER

DISTILLED, DEMINERALIZED,

or 18,000,000 OHM PURITY?

BARNSTEAD EQUIPMENT

produces it in laboratory quantities or on a

GIANT SCALE

Whatever your pure water requirement, distilled, demineralized, or even water of 18,000,000 ohm purity, you can depend upon Barnstead for the right answer . . . the right equipment . . . Barnstead makes both . . . Stills and Demineralizers . . . and specialized equipment such as the MF®Submicron Filter . . Pure Water Specialists since 1878.

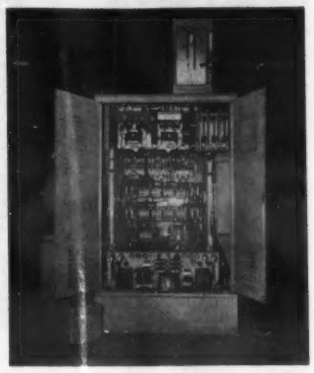
Write for Catalog "G" and Catalog 127.

Barnstead
STILL & STERILIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

▲ For more details circle NED-975 C9 on enclosed inquiry slip ▲

New Processes & Materials

PROTECTIVE COATING for electrical, mechanical equipment



Protection against moisture, corrosion, and fungus is provided by Alconol-400, a thin liquid applied by dip, spray, or brush to electrical, electronic, and precision mechanical equipment. Liquid is applied to an entire electrical system, including plugs, relays, printed circuits, transformers, coils, generators, motors, etc. It is quick drying and will simultaneously clean and remove deposits of moisture, grease, dirt, and oil while leaving a protective film. Moisture on a protected electrical system will not cause shorting. Precision equipment such as instruments, cameras, turbines, gyros, and their spare parts can be protected. Film is stable at 600° F and will not become brittle at −40° F. Samples are available upon request. Made by **Al-Con Chemical Co.**, Box 8168, New Orleans 22, La.

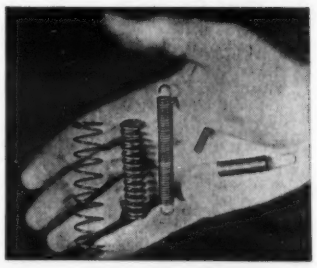
▲ For more details circle NED-976 C9 on enclosed inquiry slip ▲

WOOD PRESERVING PAINT provides rot and decay resistance

Wood buried in the ground, laid on the ground, or subjected to continuous moisture is given resistance to rot and decay by application of Wood-Rem, a wood preservative paint. It penetrates into wood pores and seals out dampness when applied by brush, dip, or spray. Creosote content of the paint kills wood-destroying bacteria. Uses include protection of wood vats, tanks, fence posts, piers, railroad ties, foundation timbers, window frames, and on-grade floors. Paint is available in black and aluminum in 1 and 5-gal cans and 55-gal drums. Other colors can be ordered. Made by **Speco, Inc.**, 7308 Associate Ave., Cleveland 9, Ohio.

▲ For more details circle NED-977 C9 on enclosed inquiry slip ▲

SPRING WIRE for high temperature uses



Made of Inconel X, a heat treatable nickel-chromium, iron, titanium material that can be precipitation hardened, Superalloy spring wire withstands operating temperatures between 650 and 1000° F. It is suited for aircraft, missile, electronic, automotive, and other uses. Wire is offered annealed in diameters from 0.005 to 0.166 in., in spring temper from 0.005 to 0.180 in., and in No. 1 temper from 0.005 to 0.230 in. Tensile strengths range up to 270,000 psi, depending upon grade and diameter. Finishes include copper, lead, Cowles lime, lime-oil, and bright. Made by **National-Standard Co.**, Niles, Mich.

▲ For more details circle NED-978 C9 on enclosed inquiry slip ▲

PLASTIC FLOOR COMPOUND resists abrasion, chemicals, greases

Fast-setting Metacrete plastic floor compound is a mixture of Bakelite epoxy resin and hardener, intended for patching cracked, pitted, or chipped industrial floors. It resists abrasion, chemicals, and greases and is hard enough to walk on within 6 hr. Industrial trucks can use the repaired floor in 12 to 18 hr. After scrubbing with carborundum blocks prior to applications, the floor can be given a coating as thin as 1/16 in. Solvent coated paint rollers can be used to smooth the floor. Sand is mixed with the Bakelite resin when a nonskid surface is required. Made by **American Metaseal Corp.**, 607 65th St., West New York, N. J.

▲ For more details circle NED-979 C9 on enclosed inquiry slip ▲

SAVE ...use plant personnel

It's easy—much like "building with blocks." Just take so many standard R-W "Zig-Zag" components and put them together into a *custom* conveyor system to meet your exact needs. *It's economical*—for R-W "Zig-Zag" conveyors can be "self-assembled" and installed by your own plant personnel. "Zig-Zag" systems may be easily expanded, modified or relocated at a later date . . . they are economical to purchase, install or maintain. Easily installed in any plant—large or small. Write today . . . request Catalog A-93R.

RICHARDS-WILCOX MFG. CO.

435 W. THIRD STREET • AURORA, ILL. • Branches in Principal Cities

▲ For more details circle NED-980 C9 on enclosed inquiry slip ▲

New Johnson *Continucast** 105 Inch Bronze Bars

ECONOMICAL • CONVENIENT • HIGH QUALITY

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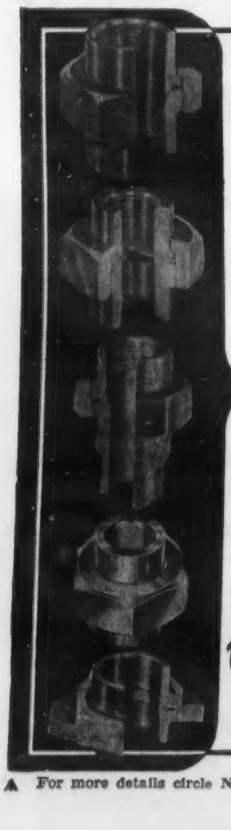

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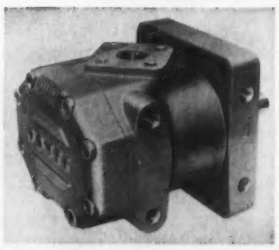

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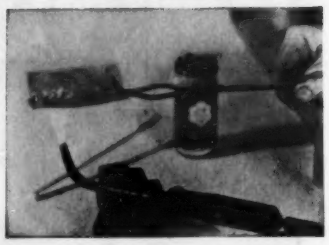

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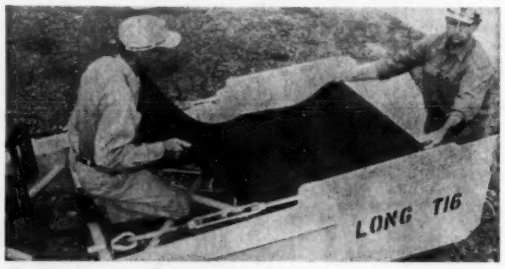

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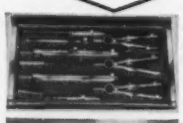

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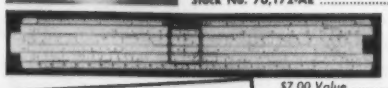

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